

Predictors and Correlates of
Relational Aggression in a School
Transition

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D.Clin.Psy. thesis (Volume 1), 2008

University College London

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Overview

This thesis is presented in three parts. The first part is a literature review which considers risk factors associated with relational aggression and the models which are currently used to help frame and understand these risks. The paper argues that existing models are inadequate and it is proposed that a developmental psychopathology framework can foster a more comprehensive understanding of relational aggression and indicate future areas for research. The second part is an empirical paper describing a short-term longitudinal study examining associations between emotional intelligence, self worth, relational victimisation, relational aggression and two forms of social status. The participants ($N = 160$) are 11 to 12 year old girls and boys who have just made the transition from primary to secondary school. In this sample, relational victimisation is found to be associated with lower self worth, lower emotional intelligence and more loneliness. Relational aggression is related to lower self worth, lower emotional intelligence and lower social preference, but also to higher perceived popularity. Emotional intelligence is considered as a possible moderator between relational aggression and perceived popularity. The third part of this thesis is a critical appraisal which includes reflection on the research process and explanation of methodological decisions. This appraisal also discusses issues in the wider field of relational aggression research, focusing on questions of measurement and interpretation of data.

Table of Contents

Acknowledgements	5
Part 1: Literature Review	6
Abstract	7
Introduction	8
Theories and Models of Relational Aggression	11
Risks Associated with Relational Aggression	16
Adaptive Aspects of Relational Aggression	39
Models Revisited	41
A Developmental Psychopathology Perspective	43
Conclusion	48
References	50
Part 2: Empirical Paper	64
Abstract	65
Introduction	66
Method	70
Results	77
Discussion	91
References	100
Part 3: Critical Appraisal	108
Issues Specific to my Study	109
Issues in the Wider Field of Research	117
Conclusion	123
References	124
Appendices	127

Tables and Figures

Tables

Correlations between Different Informants' Reports of Relational Aggression at TP2	78
Independent <i>t</i> tests Examining Gender Differences on Major Aggression and Victimisation Variables	79
Correlations between Major Variables at TP1 and TP2	83
Relative Contributions of Potential Predictors (all at TP1) to Later Relational Aggression and Victimisation (TP2)	84
Relative Contributions of Potential Predictors (all at TP1) to Later Loneliness and Self Worth (TP2)	85
Summary of Hierarchical Regression Analyses Predicting Perceived Popularity from Relational Aggression and Prosocial Behaviour	87
Summary of Hierarchical Regression Analyses Predicting Social Preference from Relational Aggression and Prosocial Behaviour	87
Summary of Hierarchical Regression Analyses Testing Whether Emotional Intelligence Moderates Association of Relational Aggression with Perceived Popularity	89

Figures

Graph showing moderating effect of emotional intelligence on the relationship between relational aggression and perceived popularity	90
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Acknowledgements

I am extremely thankful for the invaluable help of everyone at the participating schools. I am particularly indebted to Sherife, Nathan and Gillian for their organisation, enthusiasm and insights into the challenges negotiated by children moving up to secondary school. I am also very grateful to all the participants for their time in completing measures and for giving me their own perspectives on issues raised by the research.

I was helped greatly by Stephen Butler's unfailing interest and encouragement all the way through the process of designing, planning and carrying out this research.

Final thanks go to Sam for endless support and for proof reading and formatting advice of the highest standard.

Part 1:
Literature Review

Models of Risk for
Relational Aggression

Abstract

This review considers risk factors that have been found to be associated with relational aggression. The evidence for these risk factors is examined, and where findings are mixed or ambiguous, possible reasons for this are explored. Existing ways of understanding relational aggression and risk are evaluated in light of the evidence reviewed. It is argued that current models have provided valuable insights into relational aggression but that new approaches are needed to reveal future avenues for investigation. A developmental psychopathology framework is suggested as one perspective which would allow creation of a coherent model of risk and which draws attention to important areas for future research.

Introduction

Research on aggression has traditionally focused on physical aggression which has been identified as predominantly male behaviour. Nearly 40 years ago researchers began to take issue with the idea that girls were not aggressive. Feshbach (1970) argued that the difference in aggression was not the 'strength' of the hostile act but rather its 'mode'. In the past 15 to 20 years, there has been a growing interest in forms of aggression not previously widely researched, namely indirect, relational and social aggression. This research all focuses on acts which cause harm to a person's social standing, relationships and feeling of social inclusion.

Purpose of this Review

This review seeks to examine the risk factors associated with being relationally aggressive and to explore adaptive aspects of relationally aggressive behaviour. It will be argued that existing models of relational aggression need to be reconsidered and updated in the light of recent findings.

The study of risk is vital in improving understanding of relational aggression. There are also a number of practical advantages in the identification of risk factors. Children who are at risk of developing maladaptive behaviour can be identified early on, interventions can be developed with the benefit of empirical evidence and these interventions can be targeted effectively.

Search Strategy

An initial search of PsycINFO was carried out, with no limitations on year of publication, using the following search terms: 'relational* aggress* AND risk', 'social* aggress* AND risk', 'indirect* aggress* AND risk'.

A further search of PsycINFO was carried out, with no limitations on year of publication, using the following search terms: ‘relational* aggress* AND correlates’, ‘social* aggress* AND correlates’, ‘indirect* aggress* AND correlates’.

The last three years of journals in which articles from the initial search most frequently appeared were searched by hand for any relevant articles. Finally, the reference lists of the papers obtained by the first two methods were searched for further resources of interest. Using these methods and through following up any other references of interest, 199 relevant articles and 21 chapters or complete books were identified. Of this number, 109 were used to write this review.

Definitional Issues

Review articles in this area have tended to cover research using all three concepts: indirect aggression, relational aggression and social aggression. Indeed a factor analysis of the Indirect/Social/Relational Aggression scale (ISRA) found limited evidence for a distinction between the different terms as they were found to be more similar than different (Coyne, Archer & Eslea, 2006).

Indirect aggression has been defined as ‘a manipulative and covert way of harming others by using the social structure as a way to exclude, ostracize and harm others’ (Lagerspetz, Bjorkqvist & Peltonen, 1988). Indirect aggression encompasses behaviours such as gossiping, destroying friendships, spreading rumours and breaking confidences (Coyne & Archer, 2005).

Relational aggression is defined as harming others through hurtful manipulation of peer relationships or friendships, for example retaliating against a peer by excluding them from one’s social group or spreading malicious gossip (Crick & Bigbee, 1998).

Socially aggressive acts are those directed at damaging another person's self-concept, social status or both. Social aggression includes cruel gossiping and manipulation of friendship patterns and social exclusion. It is arguably distinct in that it includes negative facial expressions, gestures and verbal rejections which are direct rather than indirect forms of aggression and are not included in the previous two definitions (Galen & Underwood, 1997).

This review follows the precedent set by previous papers and embraces research using all of these terms. However, given that each term is operationalised slightly differently, throughout this review, the construct under investigation in each study will be quoted. The term relational aggression will be used generally as it is the term used in the majority of the studies reviewed.

Developmental Course

It has been suggested that relational aggression is present from early childhood, through adolescence and into adulthood but that it varies in form and sophistication as peer relationships become increasingly salient and cognitive and language skills develop (Crick, Werner, et al., 1999; Murray-Close, Ostrov & Crick, 2007).

Relational aggression and victimisation have been identified in preschool children as young as three years old (Crick, Casas & Ku, 1999; Crick, Ostrov, Burr, et al., 2006). These findings seem to hold across different cultures (Hart, Nelson, Robinson, Frost Olson & McNeilly-Choque, 1998; Nelson, Hart, Yang, Olsen & Jin, 2006), and for both sibling and peer relationships (Ostrov, Crick & Stauffacher, 2006).

Some studies have found that relational aggression increases across early and middle childhood (Hipwell et al., 2002). Other studies have failed to find an age

related increase in relational aggression at this stage in development (Vaillancourt, Brendgen, Boivin & Tremblay, 2003; Roecker Phelps, 2001).

It remains, however, that the majority of published studies look at middle to late childhood and early adolescence. During this time period, differential trajectories have been identified for girls and boys with incidences of social or relational aggression increasing for girls and decreasing for boys (Galen & Underwood, 1997; Murray-Close et al., 2007).

Relational aggression has also been found throughout adolescence (Herrenkohl et al., 2007) and in adult peer and romantic relationships, albeit at a lower prevalence than in childhood (Ruh Linder, Crick & Collins, 2002; Lento, 2006).

Researchers looking at relational aggression at different stages in development necessarily have to use different methods to measure both aggression and other variables. With very young children, parent and teacher reports predominate with an increasing number of studies using observation. Some forms of peer nomination can be used with older preschool children and by school age, self report and peer report are frequently used alongside teacher reports. By adolescence, methods such as parent and teacher report likely get less accurate as young people spend more time with their peers and become more skilled in aggressing covertly.

As this review will go on to discuss, at every stage in development, relational aggression has been found to be significantly related to a range of risk factors.

Theories and Models of Relational Aggression

Researchers have posited a number of different ways of understanding relational aggression. In some cases these ways of understanding are not yet formally articulated as models or theories, but for the purposes of this review they will be

treated as such. These ideas do not necessarily specifically pertain to risk but it can be argued that functional perspectives are valuable as precursors to understanding the processes and motives behind a behaviour (Prinstein & Cillessen, 2003).

Some of these models borrow ideas and concepts from the literature on physical aggression. Others argue that important differences between physical and relational aggression mean that new models and approaches are needed. The examples given below are by no means exhaustive but give a sense of the range of proposed models.

Social Information Processing Perspective

Social information processing (SIP) models have been used widely to understand children's social adjustment, especially tendencies towards physical aggression (Crick & Dodge, 1994; Dodge & Crick, 1990). The SIP model suggests that children bring to social situations their memories of previous social experiences and cognitive skills and capacities which will depend on their developmental stage. In these situations, children are faced with arrays of cues, in response to which they go through certain mental processes resulting in a behavioural response (Crick & Dodge, 1994). According to this model, some children display systematic biases in their processing which cause them to be more likely to act in aggressive ways. An example of this is the 'hostile attribution bias', a tendency to attribute malicious intent to others even where such intent is not present (Nasby, Hayden & DePaulo, 1979). This model allows for interaction between social information processing, ongoing experiences, social adjustment and self concept. The cognitive-emotional mechanisms it describes are also argued to account for the link between a range of risk factors and subsequent development of aggression (Lansford et al., 2006).

It has been argued that this model could have explanatory power when considering risks related to relational aggression (Crick & Dodge, 1994; Crick, Grotpeter & Bigbee, 2002). This model would predict that distal influences, for example genetic factors and previous social experiences, would impact on a child's social information processing style and thus on levels of relationally aggressive behaviour. It would also predict that a child's temperament and behavioural tendencies, for example, impulsivity would influence the ways in which they act with, and are perceived by, their peers. This model would allow for the nature of ongoing peer interactions and social adaptation to impact on a child's social information processing. Specifically, this model would predict that children who frequently initiate acts of relational aggression would be found to show deficits and biases in different aspects of processing social information, such as, intent attribution, encoding of cues and selection of social goals.

Social Learning Perspective

A social learning perspective has been used to account for the development of a wide range of social behaviours including physical aggression. It proposes that aggressive behaviours are learnt throughout childhood and adolescence by means of exposure to violence in the media and to aggressive role models and peers (Archer & Côté, 2005). Children are thought to observe and imitate these models. When they enact the behaviours to which they have been exposed, the consequences lead them to generate internal rules which then guide future behaviour. Reinforcement does not necessarily come from external sources, rather, self-reinforcement related to factors such as social comparison can also be important (Parker, Rubin, Price & Derosier, 1995).

This perspective would predict that children become increasingly aggressive as they are exposed to more aggression. It would be expected that social pressures may act differently according to gender and different behaviours would therefore be reinforced. Children's social learning may come from a number of sources: observing parental conflict, parental aggression towards the child, sibling aggression or peers' aggressive behaviour. The mechanism of learning would be constant across the sources, but the content of what a child learnt would likely vary across contexts.

Social Interaction Perspective

Another dominant model that has been used to understand how parent-child interactions can contribute to antisocial and aggressive behaviour is Patterson's coercion model. This model focuses on how coercive exchanges between parent and child can directly train the child to behave antisocially, in particular, when negative behaviours elicit inconsistent discipline and positive behaviours are inconsistently reinforced (Patterson, 1982). In a family environment where such exchanges predominate, children come to use coercive behaviours in order to shape their social environment (Dishion & Patterson, 2006).

This perspective would predict that relationally aggressive children would be subject to harsh and inconsistent discipline at home. Their home environments might also be less warm and characterised by fewer positive interactions.

Evolutionary Perspective

Vaillancourt (2005) has suggested that the key to understanding why individuals use indirect aggression may be best understood from an evolutionary perspective. Evolutionary theories regarding the functions of direct forms of aggression have argued that aggression is an evolved adaptation (Daly & Wilson, 1988). Also, that if

aggression is viewed as a tool to gain access to resources then successful aggressors will occupy social positions of dominance and control (Hawley, 1999). Vaillancourt focuses on the evolutionary advantages of using indirect aggression for females, especially when competing for mates. She suggests that this competition could take the form of actively attracting mates by making oneself appear especially attractive. Also, intimidating competitors and making them seem less attractive would improve an individual's access to mates and their resources and thus increase their reproductive fitness (Vaillancourt, 2005). It has been suggested that this would be most true for proactive acts of aggression which are aimed at damaging the reputation of another (Prinstein & Cillessen, 2003).

This theory would find support from clear evidence that indirect aggression was consistently and cross culturally more prevalent amongst females and from evidence that it caused more distress to females. An evolutionary perspective would be strengthened if indirect aggression was most frequent when females were at their reproductive peak (Campbell, 1999). It would also be expected that high status individuals would use indirect aggression and would be able to secure and retain romantic partners (Vaillancourt, 2005).

Social Needs Perspective

Underwood (2003) has argued that, in order to understand social aggression, new models will be needed. She argues that whilst physical aggression can take place between two people, social aggression involves relationships and can be a property of groups and social networks. Understanding social context is therefore likely to be crucial. In light of this, Underwood argues that social aggression may be motivated by 'developmental needs for peer acceptance and the desire to protect or further

one's own social status'. One existing framework that lends a possible structure to this theory is Sullivan's Interpersonal Theory of Psychiatry. This theory argues that an individual's personality and relationships are formed around social needs. These social needs vary throughout development and include a need for intimacy, companionship and acceptance. Anxiety results where it seems these needs can not be met. People are then posited to engage in 'security operations' (Buhrmester, 1996). One such described security operation is cited as 'disparagement', that is, putting down those with whom we feel compared. Sullivan argued that, especially where young people want to be liked, they cope with the popularity of others by making attacks on their social status (Sullivan, 1953 as cited in Underwood, 2003).

Although this is not explicitly a theory of risk for social aggression, it points towards factors that might predispose someone to initiating socially aggressive acts, indeed Underwood cites a number of implications. Children may learn security operations from the way in which their parents interact with others and with the children themselves. Intimacy in friendships could reduce the likelihood that disparagement would occur, whereas insecure attachment and rejection sensitivity may be linked to increased social aggression. Long term use of disparagement could be associated with low self worth. Also, as security operations are normative to some extent and only cause problems if employed persistently, it could be that social aggression is not always maladaptive (Underwood, 2003).

Risks Associated with Relational Aggression

Having considered the different models which have been proposed, the present review now considers how relevant these models are to relational aggression, and whether they are supported by research on risk. Where risks are common to

relational and physical aggression, it is highlighted. Consideration of the extent of this overlap is likely to be important in considering whether existing models are sufficient or whether new perspectives may be needed.

Gender

Numerous studies have contended that girls are particularly at risk of being relationally aggressive (Crick, 1997; Crick & Grotpeter, 1995; Ostrov & Keating, 2004). A number of reasons have been put forward for why this might be. Research has established that girls tend to form close intimate friendships with a few other peers (Maccoby, 1990). It has been argued that the confiding nature of these close friendships makes girls more vulnerable to this form of aggression as disclosure gives peers access to sensitive information which could be misused (Grotpeter & Crick, 1996; Murray-Close et al., 2007). Others have suggested that gender differences in aggression stem from external influences such as the social sanctions from peers and adults facing physically aggressive girls, media influences and socialisation practices (Bowie, 2007; Coyne & Archer, 2005; Lagerspetz et al., 1988). Added to this is the argument that girls are more likely to focus on relational issues in social interaction, for example issues of intimacy, inclusion and exclusion. They are therefore likely to aggress in ways consistent with their social orientation (Crick & Grotpeter, 1995).

That girls employ more relational aggression than their male peers has been found in early childhood (Crick, Ostrov & Burr et al., 2006; Ostrov & Keating, 2004), middle childhood (Crick & Grotpeter, 1995; Crick, 1997) and early adolescence (Zimmer-Gembeck et al., 2005).

There are, however studies of each developmental stage which have found no gender differences for relational aggression: in preschoolers (Hart et al., 1998), early and middle childhood (Stauffacher & DeHart, 2006), early adolescence (Loukas, Paulos & Robinson, 2005; Prinstein, Boergers & Vernberg, 2001) and romantic adolescent relationships (Ruh Linder et al., 2002). Additionally, no gender differences were found in a large study across a range of ages from 9 to 17 years (Keenan, Coyne & Lahey, 2008). Also of note are two studies that found boys to be more relationally aggressive (McEvoy, Estrem, Rodriguez & Olson, 2003; Tomada & Schneider, 1997). These divergent findings cannot be explained by cultural differences as, whilst some of the research mentioned above did not take place in North America (Hart et al., 1998; Tomada & Schneider, 1997), most of the studies did (Keenan et al., 2008; Loukas et al., 2005; Ruh Linder et al., 2002; Stauffacher & DeHart, 2006).

In a meta-analytic review, Archer and Coyne (2005) observed that whether gender differences are found depends on the method of measurement used and on the behaviour and developmental stage studied. Gender differences seemed to start off small or non-existent, increase throughout childhood and reach their peak in adolescence. Another finding was that the largest differences were observed in studies using observational methods while smaller or non-existent differences were found in studies using peer nomination or self report. Another interesting finding was that published sources were more likely to find females to be more relationally aggressive whereas unpublished sources were more likely to find that males engaged in higher rates of this form of aggression (Archer, 2004).

The overall findings regarding gender differences in engagement in relational aggression seem equivocal at best. Less contentious findings are that girls are more

likely to be classed as exclusively relationally aggressive (Loukas et al., 2005). Additionally, girls seem to use relational aggression more than overt aggression whereas boys are more likely to use these different forms of aggression at a similar frequency (Prinstein et al., 2001). These findings are congruent with the idea that girls are discouraged from initiating acts of overt or physical aggression because of social sanctions.

Another more consistent finding is that girls report thinking about social aggression more than boys and are more distressed by it (Paquette & Underwood, 1999). The relation between social-psychological adjustment and relational aggression is also stronger for females (Crick & Grotpeter, 1995). This could be because relational aggression causes more disruption to girls' close intimate friendships. Also, as girls are more socially and relationally oriented, difficulties in these areas are likely to be more salient for them.

Peer Context

Socialising with those who relationally victimise others has been shown to be a risk factor for engagement in relationally aggressive behaviour (Werner & Crick, 2004; Rose, Swenson & Carlson, 2004). Indeed, a study of 11 to 14 year olds found that peer group context explained more variance in bullying behaviour than in fighting behaviour. Although this study looks at a general measure of bullying, it is operationalised to include rumour spreading and social exclusion type behaviours. This research suggests that the peer group may be particularly important when considering relationally aggressive behaviour (Espelage, Holt & Henkel, 2003).

It is also important to take an individual's social position into account. Adler and Adler (1995) found, using participant observation, that being a member of a clique,

and especially being a leader in a clique, are positions that can necessitate relationally aggressive behaviour. They argue that these acts are used to maintain one's own standing, keep others in their respective places and to move people in and out of the clique. These ideas are bolstered by research showing that being part of a relationally aggressive peer group is a risk factor for future relational aggression only if the peer group is a high-status peer group (Ellis & Zarbatany, 2007).

Friendship Quality

It is not only the wider peer group context that has been considered. Friendships have also proven to be fruitful areas of study when considering risk and relational aggression.

A short longitudinal study of 7 to 10 year olds found that girls whose friends were highly relationally aggressive at an initial assessment became increasingly relationally aggressive over time. This was not found to be the case for boys. Girls' relational aggression at the first assessment also predicted their friends' subsequent relational aggression suggesting that this influence may be bidirectional (Werner & Crick, 2004). However, in this study, it was not clear whether the influence from friends was specific to different forms of aggression (Brendgen et al., 2008). Subsequent studies have gone some way to resolving this ambiguity. In a large sample ($N = 406$) of 7 year old twins, the influence of friends' social and physical aggression were found to be context specific, with crossover contributions, for example, from friends' physical aggression to a child's social aggression, not being found (Brendgen et al., 2008).

These associations could indicate that friends are united in their relationally aggressive behaviour towards others. They could also be taken to suggest that

children tend to be as relationally aggressive as their friends because they need to fight back within the friendship. In fact, there is some evidence for both of these interpretations.

The association may be elucidated to some extent by studies showing that certain friendship qualities such as exclusivity and intimacy are positively correlated with relational aggression (Sebanc, 2003). Also, increases in intimate disclosure by a close friend have been found to be associated with overall increases in relational aggression (not necessarily within the friendship) (Murray-Close et al., 2007). These findings may suggest that, for girls, relational aggression is one way in which friendships are maintained, friends become closer and girls avoid becoming 'the next target' (Azmitia et al., 1998 as cited in Werner & Crick, 2004). However, children who have a relationally aggressive friend, do report significantly higher levels of relational aggression and conflict within their friendship, and intimacy and disclosure may make any breach of trust more distressing (Grotzinger & Crick, 1996; Sebanc, 2003).

Rose, Swenson and Carlson (2004) found the association between friendship quality and relational aggression was moderated by social preference and perceived popularity in 8 to 15 year olds. For children and adolescents with lower social preference, negative effects of aggression on friendship were more pronounced. Contrastingly, for popular children and adolescents the effects were mitigated. It is argued that the difference between disliked and popular children could be their level of social skill, although this was not measured. Disliked children may lack the skill to keep aggressive behaviour from harming their friendship and be unable to use aggressive acts to their advantage in the wider peer context.

The idea that skill deficits may be implicated in the impact of relational aggression on friendship is supported by a study on relational aggression and Attention-Deficit Hyperactivity Disorder (ADHD) in girls. In a study which took place over the course of a summer camp, Blachman and Hinshaw (2002) found that girls with ADHD were more likely to have friendships which were characterised by negative features including conflict and specifically relational aggression. They were also found to be more likely than comparison peers to be relationally aggressive outside of their friendships. These findings were most marked for girls with ADHD Combined-type (ADHD-C) suggesting that relationship difficulties may be associated with severity of ADHD symptomatology. The possible importance of skills deficits in relational aggression highlighted by this study are discussed more fully later in this review.

Peer groups and friends have also been found to have a powerful influence on physical aggression and anti-social behaviour (Boivin, Vitaro & Poulin, 2005; Dishion, Andrews & Crosby, 1995). It has been suggested, however, that peer influences on relational aggression may operate differently (Brendgen et al., 2008). For example, the occurrence of aggression within friendships may be particular to relational aggression, as overtly aggressive children report using aggression, together with their friends, to harm those outside the friendship (Grotmeter & Crick, 1996). Additionally, physically aggressive children are often found to be in a deviant peer group whereas it seems that relationally aggressive children may well belong to a high status or central peer group.

Peer Rejection

It is evident from findings on peer context and friendship that some children who initiate acts of relational aggression are central in their peer groups and have close friendships. However, relationally aggressive behaviour has sometimes been found to be linked to peer rejection. These findings are inconsistent and sometimes contradictory in early childhood, but later in development, a relationship is more reliably found.

One study of preschoolers showed relational aggression (as rated by peers) to be significantly associated with peer rejection (as rated by peers) (Crick, Casas & Mosher, 1997). It is necessary to approach this finding with caution due to potential problems with shared method variance. Indeed, teacher assessed relational aggression was not significantly associated with peer assessed peer rejection, and for boys, was actually significantly associated with teacher assessed peer acceptance (Crick et al., 1997). The idea that relationally aggressive boys might be more accepted was echoed in second study of preschoolers where relationally aggressive boys had more friends than their non aggressive peers. The relationally aggressive girls in this sample had fewer friends (Sebanc, 2003).

A third study, employing observational methods, found preschool boys' relational aggression to be positively associated with teacher rated exclusion by peers. However, there was no significant relationship between relational aggression and rejection for girls (Ostrov, Woods, Jansen, Casas & Crick, 2004). Further to this, Burr, Ostrov, Jansen, Cullerton-Sen and Crick (2005) found relationally aggressive boys to have fewer friends whilst relationally aggressive girls had more friendships and more stable friendships.

These studies used varying methods (peer nomination versus observation) and different sources of information (teacher report versus peer report). Indeed, even where the same informant and method is reported, differing measures and procedures were used. The inconsistent findings reported above emphasise the importance of replicating results using multiple informants and different measurement methods. Also, it is necessary to consider where sources of bias might be introduced and which informants and methods are likely to be most valid and reliable.

Findings do seem to be more consistent later on in development. In 7 to 10 year olds, relational aggression has been found to be associated with peer rejection (Werner & Crick, 2004). Additionally, in a cross sectional study of 9 to 12 year olds, relationally aggressive girls were more lonely and isolated than their peers and perceived themselves as more poorly accepted (Crick & Grotpeter, 1995). In a longitudinal study, relational aggression at one time point was related positively to future peer rejection and negatively to future peer acceptance (Crick, 1996).

While these studies report a general measure of peer rejection, other studies use sociometric classifications, derived from peer nominations, to classify children into categories: 'rejected', 'popular', 'neglected', 'controversial' and 'average'. Relationally aggressive children throughout development have consistently been found to be classed as 'rejected' or 'controversial' (Crick & Grotpeter, 1995; Nelson, Robinson & Hart, 2005; Tomada & Schneider, 1997). Controversial children are those who get both positive and negative ratings from their peers. The sociometric findings are therefore congruent with a study showing that relational aggression increasingly predicts perceived popularity and low social preference in 10 to 14 year olds (Cillessen & Mayeux, 2004).

Relational aggression also seems to place children at greater risk of receiving negative peer attention. In a study in early childhood, Ostrov (2008) found that observed relational aggression was associated with concurrent teacher rated relational victimisation. For girls, relational aggression was also a significant predictor of increases in relational victimisation over one year. The latter relationship was partially mediated by peer rejection. This could be taken as evidence that rejection by peers represents one process by which children who initiate aggressive acts become victimised. These findings have been replicated with an older sample and using self report (Leadbetter, Boone, Sangster & Mathieson, 2006).

Here again, the excellent summer camp studies carried out by Hinshaw and colleagues provide additional insight into the possible mechanisms by which relational aggression can impact negatively on peer relationships and acceptance. For girls with ADHD-C, relationally aggressive behaviour was found to be associated with negative peer regard and a lack of positive peer regard, where, for other diagnostic subgroups, relational aggression was only associated with negative peer regard (Zalecki & Hinshaw, 2004). The authors suggest that the differential findings for the ADHD-C group could be due to a number of factors. Perhaps these girls are not subtle enough with their aggression, or they may lack the ability to read subtle cues in others to know when they need to stop. Also, they may lack the inhibitory skills to heed cues even where they are aware of them (Zalecki & Hinshaw, 2004). These findings provide fascinating clues as to what particular skills might be needed to be relationally aggressive but not be rejected by peers. An ability to inhibit and control one's behaviour and an ability to detect subtle social cues may be important skills for all children if they are to avoid rejection.

Psychological Adjustment

As discussed previously, there is mixed evidence that relational aggression may be associated with peer rejection in preschool aged children. Some studies have also looked at socio-psychological adjustment and relational aggression in preschool children but these studies have used proxies of adjustment such as lack of prosocial behaviour, peer rejection and peer victimisation (e.g. Ostrov et al., 2004). These studies have therefore been reported in other sections and not here. However, difficulties in psychological adjustment have been found to be associated with relational aggression from middle childhood onwards.

In a longitudinal study with 9 to 10 year olds, Murray-Close et al. (2007) found that an increase over a one year period in relational aggression was positively associated with an increase in internalising symptoms for both boys and girls. These findings fit with those of earlier studies which found that engaging in relational or indirect aggression significantly predicted anxiety, depression and withdrawn behaviours in children from 9 to 15 years old (Crick & Grotpeter, 1995; Baldry, 2004). Also, a study of 9 to 12 year olds showed that changes in relational aggression over time were uniquely associated with changes in borderline personality disorder features as measured by the Borderline Personality Features Scale for Children (BPFS-C) (Crick, Murray-Close & Woods, 2005).

Loukas et al.'s (2005) study with 10 to 14 year olds found that self reports of relational aggression were associated with higher levels of self reported social evaluative anxiety. The authors of this study acknowledge that their findings are correlational and therefore, it may either be that relational aggression precedes fear of negative evaluation, or that fearing negative evaluations from others may increase the likelihood that a child uses relationally aggressive strategies.

In late adolescence, relational aggression continues to be associated with psychological difficulties. Increased alcohol consumption and a higher score on the BDI have been found in teenagers who relationally victimised their romantic partner (Schad, Szwedo, Antonishak, Hare, & Allen, 2008). Also, in a college sample, regression analyses showed that relational aggression provided unique information about antisocial personality features and borderline personality features. Additionally, for women, relational aggression was linked to bulimic symptoms although this was only measured by two items. In this sample, relational aggression did not account for a significant proportion of variation in depression scores (Werner & Crick, 1999).

Relational aggression has also been linked with externalising symptoms. A study which followed children from the age of 2 to 10 years old found that for girls, later indirect aggression was predicted by earlier physical aggression and hyperactivity/inattentiveness (Vaillancourt, Miller, Fagbemi, Côté & Tremblay, 2007). Children who were relationally aggressive in third grade showed significantly more delinquent behaviours in fourth grade than non-aggressive children (Crick, Ostrov & Werner, 2006). Additionally, a study of 14-18 year old adolescents found relational aggression to explain a significant proportion of the variance associated with externalising behaviour after controlling for overt aggression (Prinstein et al., 2001).

Caution should be applied to interpretation of many of the studies on psychological adjustment as, in the absence of research employing large scale longitudinal designs, causality is unclear. Adjustment problems may precede aggressive behaviour, or the consequences of relationally aggressive behaviour may

lead to psychological difficulties. Equally, there may be other factors influencing both aggression and adjustment.

Cognitive Factors

A number of cognitive factors have been explored as potential risk factors for relational aggression. Most, but not all, of these studies are conceived from a SIP perspective.

Some research findings have suggested that the SIP model may indeed be useful. Children who are relationally aggressive show hostile attribution biases for relational provocation situations. This suggests that some children may have a cognitive predisposition to becoming involved in relationally aggressive conflicts (Crick, Grotpeter, et al., 2002). Further to this, social cognitions about indirect aggression mediated the effects of some environmental and emotional regulation factors on indirect aggressive behaviour. For example, retaliation approval for indirect aggression mediated the relations from anger control to indirect aggressive behaviour (Musher-Eizenmann et al., 2004). Related to this, adolescents whose normative beliefs are more tolerant of indirect aggression, and those who believe relational aggression to be an appropriate response, reported more relationally aggressive behaviour (Marini, Dane, Bosacki & YLC-CURA, 2006; Werner & Nixon, 2005). A study with college students also found evidence for the relevance of a SIP model for relational aggression. In this study, students who had a greater fear of negative evaluation were more likely to be relationally aggressive (Loudin, Loukas & Robinson, 2003).

These findings are certainly interesting but, as many of them rely on self report, they may be affected by a reporting bias. That is, in some pieces of research,

children who admit to being relationally aggressive may be more likely to declare tolerant normative beliefs about relational aggression. Other children may be equally relationally aggressive but more conscious of giving desirable responses.

Indeed some studies have failed to find support for the application of a SIP model for relational aggression. Research looking at response decision processes did not find relationally aggressive children, as identified using peer nominations, to display processing biases in response to relational conflict situations (Crick & Werner, 1998). In another study, SIP in relational vignettes was found to be unrelated to peer reported relational aggression for 9 to 12 year old girls. A number of aspects of SIP were examined, including: hostile attributions, social goals, outcome expectancies, selection of relationally aggressive responses and evaluation of relational aggression. Socially desirable responding was screened for and not found (Crain, Finch & Foster, 2005). These findings strongly challenge the applicability of the SIP model to female relational aggression. Indeed, the authors of this study suggest that studying social-contextual factors such as peer dynamics may be more fruitful (Crain et al., 2005). This argument is strengthened by the fact that these studies used multiple informants and the latter study also screened for socially desirable responses.

Although the majority of studies regarding cognitive factors and relational aggression are related to the SIP model, other areas have been studied. Advanced expressive language skills in preschool have been related to engagement in relational aggression (Bonica, Arnold, Fisher, Zeljo & Yershova, 2003). However, later findings suggested that receptive and expressive language skills were weaker for girls who were more relationally aggressive (Estrem, 2005). A third study reported mixed findings, namely that early receptive language skills were negatively associated with future relational aggression but that early expressive language skills

were positively predictive of relational aggression in middle childhood (Park et al., 2005). It is possible that the very mixed nature of these findings is due to the lack of a direct link between early language skills and later aggressive behaviour. Indeed, it seems likely that there are a number of mediating factors not identified in these studies.

It has also been conjectured that high levels of social intelligence in the absence of empathy may be a risk factor for engaging in social aggression (Bjorkqvist, 1994; Bjorkqvist, Ostermann & Kaukiainen, 2000). Indeed, a study of 526 10 to 14 year olds found indirect aggression to be significantly and positively correlated with social intelligence but significantly and negatively correlated with empathy (Kaukiainen et al., 1999).

There have also been some surprising findings regarding moral understanding and reasoning and relational aggression. In a sample of preschoolers, relationally aggressive behaviour was positively correlated with advanced moral reasoning (Hawley, 2003b). A study of moral reasoning about aggression with older children found that those who were reported by their peers and teachers to be relationally aggressive were more likely to rate relational aggression as harmful (Murray-Close, Crick & Galotti, 2006). These findings have largely been taken to suggest that children who are relationally aggressive understand the potential harm their behaviour could cause but still choose to behave in this way. Another interpretation could be that, for children who are in a peer group characterised by relational aggression, the upset caused by such actions is particularly salient.

The relationship between physical aggression and cognitive factors is less equivocal and findings consistently implicate deficits as risk factors. SIP deficits have been found to be associated with physical aggression (Crick & Dodge, 2004),

and physical aggression has been consistently associated with language deficits from the second year of life onwards (Dionne, 2005).

Parenting and Familial Factors

In the literature on physical aggression, a wider range of factors including parenting and familial influences have been found to be important in predicting aggression (review in Zoccolillo et al., 2005). Evidently, familial transmission of behaviour can be due to genes, environment or an interaction between the two. What follows is a discussion of environmental factors; genetic factors are considered in the next section.

Research into which environmental factors might constitute risk factors for aggressive behaviour is less extensive in the area of relational aggression. However, given the influential literature that suggests that children's models of relationships begin to form from their early relationships with their caregivers and that children learn about social interaction from their relationships with their parents, it seems intuitive that this would be an important area of study (Bandura, 1973; Bowlby, 1969).

In a large scale prospective longitudinal study in Canada, correlational analyses found that hostile/ineffective parenting and inconsistent parenting at age 2 was associated with higher levels of relational aggression at ages 4 to 10. This study looked in particular at children whose use of indirect aggression increased throughout the study. The girls in this subsample were more likely to be of lower socio-economic status (SES) with less parental social support and the boys had more inconsistent parenting and fewer positive parent-child interactions, all at age 2 (Vaillancourt et al., 2007).

Concurrent associations between relational aggression and parenting have also been found. In a cross sectional study of preschool children, a number of links were found between relational aggression and parenting style, psychological control and indicators of the attachment relationship. Specifically, mothers' permissive parenting was positively associated with maternal reports of both girls' and boys' relational aggression and fathers' authoritarian parenting was related to fathers' reports of girls' relational aggression. Girls' relational aggression was also predicted by mothers' love withdrawal, erratic emotional behaviour and by mothers' and fathers' guilt induction control strategies, all of which are aspects of psychological control. Finally, girls' insecure attachment scores and relational aggression scores (both as rated by their mothers) were significantly positively correlated. For boys, the same relationship was true for paternally rated insecure attachment and relational aggression (Casas et al., 2006).

These findings highlight some interesting potential areas for future research but should be regarded with some caution. A great number of variables were studied and whilst some findings were significant, the majority were not. Additionally, a number of the significant findings only held where the same informant had reported on both variables. In only one instance was teacher rated relational aggression significantly associated with a parenting variable suggesting that there may be difficulties with shared method variance in this study. Caution should also be applied to the findings regarding attachment as the measure used was a parental report of reunion behaviour.

As children become more independent, additional variables have been considered as possible risk factors for relational aggression. In a very large sample ($N = 7290$) of Canadian adolescents, parents of indirectly aggressive adolescents were reported to have less knowledge of their children's activities, although this was only true for

the males in the sample. The authors suggest that this finding may point to differences in the quality of communication in parent-adolescent relationships and thus merits further investigation (Marini et al., 2006).

Findings that parenting may influence children's use of relational aggression extend cross culturally. In a sample of Chinese preschool children, cumulative maternal and parental psychological control was associated with an increase in girls' physical and relational aggression. Inconsistencies in parenting (i.e. where mothers used relatively more physical coercion or where fathers used relatively more psychological control) also contributed to relational aggression in this sample, especially for girls (Nelson et al., 2006). In another study with Russian nursery school aged children, lower levels of paternal responsiveness and higher levels of maternal coercion were found to be significantly associated with relational aggression. In addition, marital conflict was linked to more relational aggression in boys but not girls (Hart et al., 1998).

Some of these findings do echo those in the wider literature on aggression where risks in the family environment such as a lack of responsiveness, poor attachment, hostile and coercive parenting and physical punishment have been associated with physical aggression and antisocial behaviour (Zoccolillo et al., 2005). These parallels arguably suggest that in both cases, negative early interactions provide an unhealthy prototype for later relationships. A number of processes could be argued to underlie these findings. Some of these have been identified in the context of physical aggression including social learning processes and coercive parent-child relationships.

Replication of the findings for relational aggression with multi-informant, multi-method longitudinal studies would add weight to the argument that parenting

constitutes as important a risk factor in relational aggression as it does in physical aggression. Further research is particularly vital given findings in the literature on antisocial behaviour that using a parent's report of parenting can be unreliable. Children's reports produce somewhat better predictive validity and external sources, for example direct observation or home visitor ratings, have the highest level of predictive validity (Dishion & Patterson, 2006).

In terms of future research, the fact that many of the findings are confined to particular parent-child dyads e.g. mother-daughter or father-daughter is, in itself, in keeping with other research which shows evidence for gender specific parent-child effects (Parke, 2004). However, the findings in some studies (e.g. Hart et al., 1998; Nelson et al., 2006) regarding associations between increased aggression and variables such as marital conflict and inconsistencies in parenting point towards the importance of avoiding linear static models. Indeed, in order to understand the influence that families exert on children, we need to look beyond parenting practices and beyond the parent-child dyad. Some potential areas of consideration are: the impact of child characteristics in shaping parenting, parental efforts at socialisation, qualities of the marital subsystem, parental social networks and effects of sibling conflict (Parke, 2004).

Sibling Relationships

In terms of wider familial influences, a number of studies have looked to sibling relationships as potentially important sources of information about early relational aggression. Thinking within a social learning framework, it seems possible that children may develop interaction styles and social skills within the sibling relationship which then generalise to their relations with peers. Also, from a family

systems perspective, sibling relationships are embedded in and therefore influenced by wider family relationships (Cox & Paley, 1997).

In an observational study, Stauffacher and DeHart (2006) found higher rates of relational aggression in sibling relationships than in peer relationships for 4 year olds. By age 8, this pattern had reversed due to a decrease in sibling relational aggression and an increase in peer relational aggression. This suggests that the rate at which relational aggression takes place in different relationships is somewhat dependent on developmental stage. Birth order effects have also been identified, with older siblings being found to be more relationally aggressive. Additionally, older siblings' relational aggression has been found to predict younger siblings' use of relational aggression towards peers (Stauffacher & DeHart, 2006; Ostrov et al., 2006).

Some studies have looked simultaneously at both relational aggression within the sibling relationship and parent-adolescent relationship quality. In one study, low sibling intimacy and high sibling negativity were related to sibling relational aggression. In addition, high parental warmth was associated with lower rates of sibling relational aggression whereas parental differential treatment of siblings and maternal intervention in conflict were linked to increased relational aggression (Updegraff, Thayer, Whiteman, Denning & McHale, 2005). A later web based study found maternal psychological control (as perceived by adolescents) to be correlated with relational aggression for younger and older siblings. In this study, maternal differential treatment was not found to be related to sibling relational aggression. However, the findings regarding the potential positive impact of a good family environment were replicated with cohesiveness and positive expressiveness being associated with less relational aggression (Yu & Gamble, 2008).

These findings could be interpreted as supporting a social learning perspective in that negative relationship experiences with parents and modelling within the family of psychological control could lead to relational aggression between siblings (Updegraff et al., 2005). However, it could be that more dynamic systemic models which reflect the interdependencies of family subsystems and the influences of the wider contexts in which families are embedded will lead to a fuller understanding of familial influences on aggressive behaviour (Cox & Paley, 1997).

Genetic Effects

A considerable number of studies have considered heritability effects on aggression in children, but these studies have primarily focused on physical aggression (Perusse & Gendreau, 2005; Rhee & Waldman, 2002). These studies have found that approximately 50% of the variance in physical aggression is determined by genetic factors (Brendgen et al., 2005).

The number of studies seeking to establish whether genetic factors influence relational aggression is much fewer. Recently, however, two twin studies have compared the relative influences of genes and environment on physical and social aggression. The first of these studies, looking at 6 year old twins, found that whilst approximately 50% to 60% of the variance in physical aggression was explained by heritable factors, only 20% of the variance in social aggression was accounted for by genetic factors. The majority of the variance in social aggression was explained by unique environmental factors. The findings of this study also suggested that physical and social aggression are determined by largely similar genetic factors. For the most part, however, they seem to have different environmental influences (Brendgen et al., 2005).

The authors suggest that their findings regarding overlapping genetic factors in relational and physical aggression could be explained by the fact that some children are biologically and physiologically predisposed to aggressive behaviour. Whether this is expressed in a physical or social manner is then dependent on whether the child is exposed to particular environmental conditions. They argue that the correlation between the two phenotypes supports the developmental model proposed by Bjorkqvist, Lagerspetz and Kaukiainen (1992) which posits that children who exhibit strong aggressive tendencies will tend to begin by expressing these through physical aggression early on in development. As they mature, their social and cognitive skills develop and they use more subtle and socially acceptable forms of aggression (Brendgen et al., 2005).

Their findings cast doubt on the supposition that the environmental influences, for example in parenting, are similar for physical and relational aggression. Psychological control in parenting has already been identified as particularly relevant to relational aggression (Casas et al., 2006; Nelson & Crick, 2002) and peer influences have been shown to be particular to specific forms of aggression (Werner & Crick, 2004). Future studies should consider whether influences are unique to relational aggression or associated with more general definitions of aggression.

The second twin study, this time with 7 year olds, considered whether there was evidence for a gene-environment interaction for physical and social aggression. Results showed that, for physical aggression there was a possible gene-environment link between friends' and children's behaviour, with genetically mediated expression of physical aggression higher in children who had physically aggressive friends. However, high levels of social aggression were associated with friends' high levels of social aggression, in addition to general genetic effects which operated

irrespective of friends' behaviour (Brendgen et al., 2008). It could be that the absence of sanctions and potential benefits of social aggression mean that most children will initiate acts of this nature if their friends do (Werner, Senich & Przepyszny, 2006). For physical aggression however, negative sanctions mean that children who are not genetically predisposed to behave in this way, are not similarly affected by their friends' behaviour (Brendgen et al., 2008).

This study also found that, at this point in development, whether a child had socially or physically aggressive friends was accounted for by environmental factors and not mediated by genetics. The authors suggest that, as children become increasingly independent, a relationship between the peers they affiliate with and their own underlying genetic predisposition to aggression may become more apparent (Brendgen et al., 2008).

Future studies looking at gene-environment interactions and correlations in the home environment will further enrich understanding of genetic factors in relational aggression. It will also be important to consider gender differences in the genetic influence on relational aggression in the peer and family context.

Future Aggressive Behaviour

A number of studies have indicated that if no intervention is effected, relational aggression at one point in time is likely to predict future relational aggression. In a sample of preschoolers, observed relational aggression in girls was stable across an 18 month period, although the same was not found for teacher reports (Crick, Ostrov, Burr, et al., 2006). Crick (1996) found that relational aggression was relatively stable over 1 and 6 month intervals for girls and boys between 9 and 12 years old. Stability in relational aggression was also found in a large longitudinal study of 4 to

11 year olds (Vaillancourt et al., 2003). However, in a short-term longitudinal study of 7 to 10 year olds, 25% of children showed marked increases in relational aggression and 25% showed marked decreases in relational aggression, suggesting that stability is less than perfect (Werner & Crick, 2004).

Relational aggression has been shown to be consistent across relationship contexts. Relational aggression in peer relationships has been found to be associated with relational aggression in romantic relationships suggesting that this behaviour may generalise from peer relationships to romantic relationships (Lento, 2007). This is of particular concern given evidence that, in romantic relationships, relational aggression is associated with negative romantic relationship qualities such as frustration, jealousy and ambivalence and negatively associated with positive relationship qualities such as trust (Ruh Linder et al., 2002).

Adaptive Aspects of Relational Aggression

So far, the focus has been on risks which are associated with being relationally aggressive. However, in order to present a complete picture and therefore enable balanced consideration of models of risk, it is necessary to reflect on evidence which suggests that some individuals may derive benefits from behaving in relationally aggressive ways.

Whilst physical aggression has been identified as a significant predictor of school dropout, lower academic competence and unpopularity, social aggression has been found to be related to greater sporting ability, high network centrality and being able to get one's own way, especially when aggression is subtle. It has been suggested that in order to be successfully socially aggressive, a person needs to be connected to 'mainstream social networks which . . . support conventional beliefs and sanctions.'

Possibly, being connected to mainstream networks prevents children from following deviant trajectories (Xie, Cairns & Cairns, 2002).

In a similar vein, relational aggression has been associated with high status for boys and girls (Cillessen & Mayeux, 2004; Hawley, 2003a; LaFontana & Cillessen, 2002). Specifically, Cillessen and Mayeux (2004) found that relational aggression increasingly predicted perceived popularity between 10 and 14 years of age. They suggest that relational aggression may help adolescents to gain, and subsequently maintain, peer status. They argue that relational aggression is not necessarily a form of maladjustment, but rather a social skill which is associated with some favourable outcomes in terms of gaining power in the peer group. Rose, Swenson and Waller (2004) suggest that the strengthening in this relationship throughout development may be due to adolescents being increasingly able to aggress strategically in ways that result in greater popularity.

There have also been suggestions that some younger children are capable of employing relationally aggressive behaviour skilfully and to their advantage. Hawley (2003b) found that in a group of preschoolers, children who used both coercive (including relationally aggressive) and prosocial strategies were among the most socially preferred children. Hawley suggests that these children, termed bistrategics, manage to balance their aggressive behaviour sufficiently with socially acceptable behaviour.

Finally, it has been suggested that social aggression may help fulfil some developmental functions, for example, identity formation, moral negotiation and maintenance of group boundaries (Underwood, 2003).

How might we make sense of these findings? It has been suggested that indirect aggression may be more adaptive than direct aggression in certain social conditions. Social disapproval and sanctions relating to indirect aggression are often lesser than those related to physical aggression. Moreover, skilled perpetrators of indirect aggression, may incur minimal negative consequences (Archer & Coyne, 2005; Bjorkqvist, 1994). It may be tempting then to think of these aggressive but popular children as Machiavellian and scheming as others have before (Hawley, 2003a). However, given that many of the findings above refer to popularity and not social preference, it may be that these children are central in their social networks but not well liked. In this case, it may be helpful to think more broadly about the consequences of being relationally aggressive and to consider the different functions of this form of aggression rather than trying to discriminate between times when it is adaptive or maladaptive.

Models Revisited

Social Information Processing Perspective

It has been shown that many relationally aggressive children are rejected by peers and show adjustment difficulties. These experiences could arguably lead to development of deficits and biases in SIP. However, direct evidence for the relevance of the SIP model in relational aggression is most consistently found in studies using self report with mixed findings in studies using other sources of information.

Social Learning Perspective

The social learning perspective gains considerable support from a number of areas. Parental hostility, parental psychological control, marital conflict and sibling

aggression have all been found to predict and be associated with relational aggression. In addition, having peers who are relationally aggressive does seem to impact on the likelihood that a child will behave this way. There is some evidence that the form of aggression used varies according to gender, although these differences may be relative and not absolute. Finally, children's use of relational aggression seems to become more sophisticated and covert as they become more aware of social norms. However, specific evidence to show that these associations are underlain by social learning processes is, thus far, lacking.

Social Interaction Perspective

Relationally aggressive children have been found to be more likely than their peers to experience hostile parenting and inconsistent discipline which is in keeping with this perspective. However, detailed studies have not taken place to identify whether coercive cycles of interaction are the cause of associations which have been found. Also, given evidence that coercive parenting is linked to physical aggression, it may be that this is a generic risk factor for aggressive behaviour and not specific to relational aggression.

Evolutionary Perspective

This perspective gains mixed support from the findings set out. However, given its nature, an evolutionary theory is difficult to prove or disprove. Findings regarding gender are partially in support of the evolutionary perspective proposed by Vaillancourt (2005). Girls do use relational aggression more frequently than they use other forms of aggression, and they seem to experience more distress when victimised in this way. However, they are not always found to be more relationally aggressive than their male counterparts. Engagement in relational aggression has

been argued to peak around middle childhood and early adolescence which coincides with the onset of puberty and, theoretically, the beginning of the reproductive years, although the validity of this in current European cultures is questionable. Finally, relational aggression does seem to be used by high status individuals to gain advantage and popularity.

Social Needs Perspective

The social needs model (as described by Underwood, 2003) fits with much of the evidence presented about risks related to relational aggression. Children do seem to initiate acts of social aggression against those with whom they might feel compared, such as friends or others in their clique. Also, some children who are socially aggressive have been found to have difficulties in their interpersonal relationships and do suffer from internalising difficulties, as this model would predict. Finally, social aggression does not always seem to be maladaptive, a fact that would also be accepted from this perspective.

A Developmental Psychopathology Perspective

The evidence examined does not lend unqualified support to any one of these models, which could be argued to suggest that a more overarching framework would be helpful in understanding relational aggression. A developmental psychopathology perspective is very relevant to relational aggression. Indeed, it has been argued elsewhere that research into peer relationships is already exemplary in its recognition of the principles of developmental psychopathology, despite rarely working explicitly within this framework (Parker et al., 1995). In particular, the perspective provides helpful direction for creating a more coherent model of risk and highlights important areas for future research.

A developmental psychopathology approach considers an understanding of normal functioning to be helpful in understanding pathology. Equally, pathology is used to gain an understanding of normal functioning. The approach acknowledges continuities and discontinuities in functioning, and processes by which individuals move between normal and pathological development are of great interest. It is a lifespan approach which recognises that, over the course of development, an individual is presented with differing challenges and has changing vulnerabilities and skills. Stresses and risks are therefore viewed as having differing impacts at various points in development and in different contexts, and behavioural outcomes are acknowledged as varying accordingly. Parents are viewed as impacting on development both through environmental and genetic influences.

Among the key concepts are multifinality (that the same risk factor in different individuals may lead to different outcomes), and equifinality (that individuals with the same disorder may have followed different pathways to pathology). Risk factors are seen as taking varying forms, from lifelong vulnerabilities to transient influences. Individuals whose development follows a pattern normally predictive of pathology but who do not develop disorder are of interest in uncovering factors of resilience. Interventions can then be developed from the knowledge of what draws individuals closer to, and away from, risk (Cicchetti & Cohen, 1995).

Much of the evidence discussed in this review suggests that, as with other research into peer relationships, a developmental psychopathology framework can be used to help advance understanding and research in the area of relational aggression.

Longitudinal studies have shown that there are discontinuities in some children's relationally aggressive behaviour with some individuals decreasing their aggression over time, others showing an increase over time and yet another group being stable in

their behaviour (Werner & Crick, 2004). Findings such as these provide opportunities to look at how the groups differ from one other and from children who are never relationally aggressive. In the aforementioned study, children who became increasingly relationally aggressive were more likely to be classed as rejected and to have highly relationally aggressive friends. However, this study did not consider in what ways the group with decreasing relational aggression or the never aggressive group may have differed. Considering factors related to resilience, and discontinuities in maladaptive functioning would be considered crucial within a developmental psychopathology framework.

Another aspect of the literature on relational aggression which fits particularly well with a developmental psychopathology perspective is the idea of adjustment and maladjustment being best conceptualised as on a continuum. Evidence in this area suggests that use of relational aggression is not always associated with maladjustment and some relational aggression may in fact be normative (Rose, Swenson & Waller, 2004).

Although the distinction has not explicitly been made, research into relational aggression has identified different types of risk, from vulnerability type risk factors such as genetic risks and parenting style to more transient risks such as relationally aggressive friendships. Further study of the ways in which these factors interact with one another and with resilience promoting factors might help to identify a number of different pathways to relational aggression (equifinality). It may then be the case that some pathways are associated with future maladaptation whilst others are associated with neutral or even positive outcomes. Such research might answer interesting questions such as ‘what factors enable children to engage in relational aggression with relatively few problems where others seem to come to grief?’

Findings to date indicate that consideration of a child's cognitive and social skills and their social status may provide some insight (Xie et al., 2002; Zalecki & Hinshaw, 2004).

The concept of multifinality also brings to attention the fact that there are some risks which are associated with multiple forms of aggression. An example of this is the finding that relational and physical aggression share some genetic factors (Brendgen et al., 2005). Coercive patterns of familial interactions have also been identified as a risk in the literature on both physical and relational aggression (Hart et al., 1998; Zoccolillo et al., 2005). In the presence of these risks, outcomes are likely to vary depending on the presence or absence of other risk and resilience factors.

Consideration of developmental stage is also likely to be important. Younger children have less say in choosing their peers therefore their peer context is less influenced by their own skills and temperament. Also, younger children often spend more time with their siblings and in the home environment. By middle childhood and early adolescence, children play a more active role in selecting their peer group and may spend less time with their siblings. This is likely to impact on the relative influence of peers and family on relational aggression. Another example of how a developmental approach is crucial relates to a child's level of social and cognitive skill. In preschool, few children possess sophisticated understanding of the feelings and intentions of others or would be able to react appropriately to subtle social cues. Throughout development, most children develop these skills but there is some suggestion that children who lag behind in these areas are more vulnerable to negative outcomes associated with relational aggression (Blachman & Hinshaw, 2002; Zalecki & Hinshaw, 2004).

These insights open up new possibilities in terms of how we conceptualise relational aggression. Until now, researchers have tended to either focus on the harmfulness of relational aggression for aggressors or on the fact that relational aggression is a powerful behaviour that, when used skilfully can gain and maintain social power for the aggressor. Using ideas from developmental psychopathology, it is possible to conceive that both arguments may be valid.

It may be most productive to recognise that children who employ relational aggression are likely heterogeneous in a number of respects. It is possible that some children are more genetically and temperamentally prone to aggression. These children might also be more prone to SIP deficits and biases and may face peer rejection as a result of their behaviour. For other children, relational aggression may be socially reinforced because it helps them to maintain their social position whilst avoiding undue sanctions. These children may be more socially and cognitively skilled. The quality of relational aggression used by these groups might be different, with the former group using more reactive aggression and the latter more proactive aggression. There may also be different outcomes regarding psychological adjustment and victimisation associated with these different pathways. Naturally, these are characterisations and there is likely to be considerable overlap. Indeed, there may be children whose social context raises the risk of relational aggression; their behaviour may maintain their popularity but also make them vulnerable to conflicted friendships and internalising difficulties.

Research into resilience to relational aggression is also important and should distinguish between children who do not get involved in relational aggression and those who do but seem to suffer fewer negative consequences. It seems likely that children in these two groups will differ in a number of ways.

A final important insight pertains to the different models and theories put forward so far as ways of understanding relational aggression. A developmental psychopathology approach would suggest that there are likely to be multiple mechanisms and processes which underlie relational aggression and that some will be more relevant to a given individual than others. This perspective would expect that for some children who are relationally aggressive, deficits in social information processing may underlie their difficulties. For others, social learning could be more relevant while for yet others, fulfilment of social needs may be the most pertinent driving force. In reality, for any one individual, a number of processes may be involved to different extents.

Conclusion

Researchers have identified a number of risk factors associated with relational aggression. Some of these associations are strong and have been successfully replicated, for example findings regarding psychological adjustment and peer rejection from middle childhood onwards. Evidence regarding some other risks such as cognitive biases and gender seems to be more ambiguous. Findings in yet other areas such as parenting are promising but require replication with improved methodologies and more ecologically valid research designs.

Existing ways of understanding risk and relational aggression have been considered in the light of the evidence reviewed. It has been argued that, whilst these models offer important insights into relational aggression and have provided fruitful avenues of investigation, new approaches are now needed. A developmental psychopathology framework has been put forward as a relevant and useful perspective. It has been argued that the principles and concepts of developmental

psychopathology can be used to create a more coherent model of risk and draw attention to areas for future research.

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Part 2:
Empirical Paper

Predictors and Correlates of
Relational Aggression in a School
Transition

Abstract

Associations between emotional intelligence, self worth, relational victimisation, relational aggression, social preference and perceived popularity were examined in a short-term longitudinal design. Participants were 160 children aged 11 or 12 years old who had just completed a school transition. Relational victimisation was associated with lower self worth, lower emotional intelligence and more loneliness, and these associations were stronger for girls. Relational aggression was related to lower self worth, emotional intelligence and social preference. However, a positive association between relational aggression and popularity was found. This relationship was not significantly moderated by emotional intelligence. However, for girls the moderating effect of emotional intelligence did approach significance and relational aggression more strongly predicted popularity for more emotionally intelligent girls. It is argued that there is a need to develop a more sophisticated understanding of relational aggression incorporating both the benefits and costs to aggressors.

Introduction

Throughout childhood and adolescence, peer relationships provide a vital context for the development of skills, attitudes, behaviour and self-concept. Children's experiences with peers affect, and are affected by, their social, emotional and cognitive advancement (Rubin, Bukowski & Parker, 2006). Given the importance of these relationships, it is unsurprising that there is considerable interest in difficulties that might impact on a child's social experiences with their peers.

Research on relational aggression, and in the closely related areas of social and indirect aggression, represents one such area of interest. This research has focused on how people sometimes act in ways to cause harm to their peers' social standing, relationships and feelings of social inclusion. Specifically, relationally aggressive behaviours are those that "harm others through damage (or the threat of damage) to relationships or feelings of acceptance, friendship or group inclusion" (Crick, Werner, et al., 1999). This definition includes acts such as purposefully excluding others to get back at them, spreading malicious rumours or gossip and threatening to withdraw friendship (Grotmeter & Crick, 1996).

Relational aggression and victimisation have been observed and studied throughout development, from preschool age (Crick, Casas & Ku, 1999; Crick, et al., 2006), through middle childhood (Roecker Phelps, 2001; Vaillancourt, Brendgen, Boivin & Tremblay, 2003) and into adolescence and adulthood (Herrenkohl, et al., 2007; Lento, 2006).

It has been argued that girls initiate relational aggression more frequently than boys throughout development (Crick, 1997; Crick & Grotmeter, 1995; Crick, et al., 2006; Ostrov & Keating, 2004; Zimmer-Gembeck, Geiger & Crick, 2005).

However, some studies have found that there are no gender differences (Hart, Nelson, Robinson, Frost Olsen & McNeilly-Choque, 1998; Loukas, Paulos & Robinson, 2005; Stauffacher & DeHart, 2006) and other studies have found boys to be more relationally aggressive than girls (McEvoy, Estrem, Rodriguez & Olson, 2003; Tomada & Schneider, 1997).

Relational Aggression: Social Advantage or Path to Peer Rejection?

Research to date has tended to suggest that behaving in a relationally aggressive way is associated with concurrent and future social and psychological maladjustment. Enactment of relationally aggressive behaviour has been found to be correlated with peer rejection (Werner & Crick, 2004), loneliness (Crick & Grotpeter, 1995), externalising behaviour in girls (Prinstein, Boergers & Vernberg, 2001) and high levels of conflict in friendships (Grotpeter & Crick, 1996; Sebanc, 2003). It has also been found to predict increases in internalising symptoms (Murray-Close, Ostrov & Crick, 2007).

It has, however, been contended that some children who initiate acts of relational aggression may derive benefits from their behaviour. These assertions gain support from findings that relational aggression is associated in some samples with high network centrality (Xie, Cairns & Cairns, 2002) and perceived popularity (Cillessen & Mayeux, 2004). It is argued that these findings could be explained by the fact that, when it is used skilfully, relational aggression is effective in gaining and maintaining a dominant position in the peer group (Rose, Swenson & Waller, 2004). There is some evidence for this idea in that indirect aggression has been found to be significantly and positively correlated with social intelligence (Kaukiainen, et al., 1999). Also, in some instances, proactive and therefore more planned aggression has

been found to be positively related to popularity in a way that reactive aggression is not (Prinstein & Cillessen, 2003). Another strong proponent of this view even termed a group of relationally aggressive children as Machiavellian. This group rate highly on social preference, seemingly through balancing their coercive behaviour with prosocial behaviour (Hawley, 2003).

Findings regarding relational victimisation are less equivocal and suggest that being subject to negative peer experiences of this nature is associated with increased difficulties in a number of areas. Relational victimisation has been associated with lower social competence and higher rates of externalising behaviour (Garner & Lemerise, 2007), increased self-restraint problems (Crick & Bigbee, 1998), higher internalising problems (Baldry, 2004; Prinstein et al., 2001), lower social acceptance (Crick, Casas, et al., 1999) and peer rejection (Schafer, Werner & Crick, 2002). There is, however, evidence that the negative effects of relational victimisation can be buffered to some extent. Factors that have been identified as engendering resilience include close friendship support (Prinstein et al., 2001), receipt of prosocial behaviour from peers (Storch & Masia-Warner, 2004) and having a positive relationship with one's parents (Baldry, 2004).

In summary, the literature, whilst generally in agreement about the negative correlates of relational victimisation, is more divided over the characterisation of children who are relationally aggressive. Are children who employ this form of aggression lonely, socially rejected and psychologically maladjusted or are they socially intelligent, popular and central in their peer groups?

One goal of this study was to gather data which would enable differentiation between these somewhat conflicting views; either relational aggression is wholly maladaptive and harmful to those who initiate it, or relational aggression can be used

skilfully, to the advantage of the aggressor to gain social advantage. To address this goal, this piece of research considers variables which have not previously been studied together.

Hypotheses

In line with the generally held view that relational victimisation is associated with increased difficulties, it was hypothesised that relational victimisation would be associated with lower self worth, lower emotional intelligence, lower social preference and more loneliness.

Following the argument that relational aggression is also associated with negative outcomes, it was hypothesised that there would be a bidirectional relationship between low self worth and relational aggression. It was also predicted that relational aggression would be associated with lower emotional intelligence and with negative outcomes in terms of social preference.

Competing hypotheses regarding relational aggression were also formed in line with the evidence that some children who initiate this form of aggression are skilled. Specifically, it was hypothesised that children who were relationally aggressive would be higher on measures of emotional intelligence and perceived popularity. Additionally, in line with the idea that when it is used skilfully relational aggression is effective at gaining dominance, it was predicted that, the relationship between popularity and relational aggression would be stronger for children who were more emotionally intelligent.

Relational Aggression and Transition

A second goal of the present study was to extend the literature on relational aggression by considering these hypotheses in a sample who were negotiating the

transition from primary school to secondary school. In the UK, this transition takes place when children are 11 to 12 year olds. It has been argued that this is an age of intense sociocognitive development and one at which peer conflict is particularly salient (Bjorkqvist, Ostermann & Kaukiainen, 2000).

This is also an interesting time to consider social relationships as peer groups go through a phase of considerable renegotiation and children face significant social challenges (Sirsch, 2003). It could be argued that children who have difficulties in social relations would find this time particularly hard and that it is therefore an ideal time to study relational aggression and maladaptive outcomes (De Bruyn & Van den Boom, 2005).

On the other hand, it has been argued that transitions may be times when aggression is used as a means of re-establishing social dominance in a new context (Cillessen & Mayeux, 2004; Pelligrini & Long, 2002). These findings indicate that a transition is also an ideal time to identify whether children employ relationally aggressive behaviour to this end.

Method

Participants

Power analyses were conducted using an alpha of .05 and a power of 0.8. From previous research, a medium effect size of 0.3 for correlational analyses was expected. Power tables indicate that the minimum sample size, given these assumptions, would be 84 (Cohen, 1992).

Participants were recruited from Year 7 classes (age 11 to 12) at three secondary schools, two in London and one in a large town in south east England. One of the schools was coeducational and the other two schools were all-female. Students were

invited to take part in the study at the beginning of the autumn term (their first term in secondary school). They were given a brief explanation of the study and then given information sheets and consent forms to take home and discuss with their parents. Only children who returned completed consent forms, signed both by their parents and themselves, were eligible to participate in the research.

In this way, a total of 160 children were recruited from 12 classes across the three secondary schools. This represents a consent rate between 42.7% and 55.6%. These 160 participants (108 girls, 52 boys) were assessed at both time points and are the sample included in the present analyses. The ethnic composition of the sample was 68.2% White, 6.8% Indian, 4.7% Black African, 3.6% Bangladeshi, 2.6% Black Caribbean, 1.0% Pakistani, 6.8% defined themselves as having a mixed ethnic background and 6.2% defined themselves as not fitting into any categories given.

Ethical approval for this study was obtained from the UCL Research Ethics Committee.

Procedure

Data collection took place at two time points. Time Point 1 (TP1) was in the first half of the autumn term. This was within four weeks of the students moving to secondary school. Time Point 2 (TP2) was in the latter part of the spring term, approximately five months after TP1.

At TP1 self report measures were used to assess: self worth, emotional intelligence, relational and physical aggression, relational and overt victimisation, prosocial behaviour, received prosocial behaviour and loneliness.

At TP2 the self report measures used at TP1 were repeated. In addition, a teacher report measure of relational and physical aggression and prosocial behaviour was

obtained. Finally, peer report measures were used to assess social preference, perceived popularity, relational aggression and prosocial behaviour.

All self report measures were compiled into a questionnaire pack which, at TP1, also asked participants to report their ethnicity. At both time points, the self report measures were completed under supervision of a class teacher and all participants were given the same instructions for completing the measures.

Peer report measures were filled out in two different ways, depending on the school's preference. In two schools, peer report measures were filled out with each participant individually. In the third school, peer report measures were administered a class at a time with two adults (one researcher and one teacher who was not known to the participants) to provide any help needed. In all cases, confidentiality was emphasised and participants were debriefed and thanked after filling in the measure. Participants were given a small gift of chocolate, dried fruit or a cereal bar to thank them for their time and help with the research.

Teacher report measures were given to form tutors to fill out in their own time. They were completed at TP2 by which time the teachers had known the participants for five months. A £15 department store voucher was given to each teacher to thank them for their time and input. Teacher report measures were completed for 88.8% of the sample.

Measures

Self Report

Self Worth. Self worth was assessed using the six item Global Self Worth subscale of Harter's Self Perception Profile for Children (SPPC; Harter, 1985). This subscale

has previously been used to measure self worth in this field of research (Graham & Juvonen, 1998; Prinstein, et al., 2001). Respondents are presented with a “structured alternative format” which involves deciding which of two statements fits best for them. Once they have made this decision, they have to decide whether the statement they have chosen is ‘really true’ for them or just ‘sort of true’ for them (Harter, 1985).

Each item is coded with a score between 1 and 4, with a higher score denoting higher self worth. The ratings for the six items were averaged to create a single self worth score, again ranging from 1 to 4. The internal reliability of the global self worth measure was acceptable at both time points (Cronbach’s α 0.80 at TP1 and 0.85 at TP2).

Emotional Intelligence. Emotional intelligence was measured using the short form of the BarOn Emotional Quotient Inventory: Youth Version (BarOn EQ-i: YV (S)). This measure is designed for use with young people aged 7 to 18 years old and consists of 30 items. For each item, subjects are asked to rate whether the statement is ‘not true of me’ (1), ‘just a little true of me’ (2), ‘pretty much true of me’ (3) or ‘very much true of me’ (4). The 30 items break down into the following subscales: Intrapersonal EQ, Interpersonal EQ, Adaptability EQ and Stress Management EQ. An overall EQ can also be calculated (BarOn & Parker, 2000). The internal reliabilities of all the subscales were acceptable at both time points (Intrapersonal: Cronbach’s α 0.78 at TP1 and 0.85 at TP2, Interpersonal α 0.60 at TP1 and 0.75 at TP2, Adaptability α 0.81 at TP1 and 0.78 at TP2, Stress Management α 0.82 at TP1 and 0.87 at TP2).

Relational and Physical Aggression. The Children's Social Behaviour Scale – Self Report (CSBS-S) (previously Children's Peer Relations Scale – CPRS) was used to gain a self report of relational and physical aggression (Crick & Grotpeter, 1995). This measure asks children to rate how often they do different things on a five point scale (1 = never, 5 = all the time). This measure was shortened slightly and consisted of four relational aggression items (e.g. 'Some people try to keep certain people from being in their group when it is time to play or do an activity. How often do you do this?'), two physical aggression items (e.g. 'Some people hit others at school. How often do you do this?') and three prosocial behaviour items (e.g. 'Some people help out others when they need it. How often do you do this?'). The internal reliability of all of these scales was acceptable (Cronbach's α between 0.63 to 0.83).

From the original scale, the following items were also retained: two loneliness measures (e.g. 'Some people wish they had more friends at school. How often do you wish this?') and one verbal aggression measure (e.g. 'Some people yell at others and call them mean names. How often do you do this?').

Relational and Overt Victimisation. Relational and overt victimisation was measured using an adapted version of the Social Experiences Questionnaire (SEQ; Crick & Grotpeter, 1996). This scale was designed specifically for the assessment of children's victimisation by peers and has been used widely (Crick & Grotpeter, 1996; Crick & Bigbee, 1998; Roecker Phelps, 2001). This measure asks children to rate how often different things happen to them, on a five point scale (1 = never, 5 = all the time).

The measure consisted of four relational aggression items (e.g. 'How often do other kids leave you out on purpose when it is time to play or do an activity?'), four

overt victimisation measures (e.g. ‘How often do you get hit by another kid at school?’) and four items measuring receipt of prosocial acts (e.g. ‘How often does another kid try to cheer you up when you feel sad or upset?’). The internal reliability of all of these scales was acceptable (Cronbach’s α between 0.65 to 0.79).

Teacher Report

Relational and Physical Aggression. In order to gain a teacher report of relational and physical aggression, form tutors of participating children were asked to complete the Children’s Social Behaviour Scale – Teacher Form (CSBS-T). This measure was developed in previous research (Crick, 1996) and has been used widely since with both school age and preschool age children (Murray-Close, Crick & Galotti, 2006; Ostrov, Woods, Jansen, Casas & Crick., 2004).

The measure consisted of five relational aggression items (e.g. ‘This child spreads rumours or gossips about peers’), three physical aggression items (e.g. ‘This child hits or kicks peers’) and four prosocial behaviour items (e.g. ‘This child says supportive things to peers’). For each item, teachers were asked to rate how true each statement was, for each participating child in their tutor group, using a five point scale (1 = never, 5 = almost always true). The internal reliability of all of these scales was acceptable (Cronbach’s α between 0.86 to 0.91).

Peer Report

Peer nomination techniques have been used widely in this field and have been shown to have good validity and reliability (Bjorkqvist, 1994; Cillessen & Mayeux, 2004; Merrell, Buchanan & Tran, 2006). The most frequently employed peer nomination technique consists of asking children to nominate three classmates who best fit a

given description. This method has been used to measure social acceptance, popularity and relational aggression (De Bruyn & Van den Boom, 2005; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996). In this study, the participation rate in some classrooms was below 50% and it was not deemed ethical to allow children to nominate children who were not in the study. This meant that using a top three nomination method was not viable, so instead children were asked to rate all participating peers on a five point rating scale. This rating method has been used previously and has been shown to yield at least as much information as a top three method (Bukowski, Sippola, Hoza & Newcomb, 2000; Maassen, Van der Linden, Goossens & Bokhorst, 2000).

All peer report measures used the same format and were administered at the same time. Participants were given a list of the other participating members in their class. This list was attached to a rating form which enabled participants to rate each of their peers in response to five different questions. The questions were read to participants one at a time and they were given a visual five point scale with anchors at the end points. The participant's attention was drawn to these verbal anchors before they responded to each question.

Social Preference. First of all, participants were asked to rate on a five point bipolar scale how much they liked to spend time with each of their participating peers. They were given a visual scale and verbally prompted that a rating of 5 should be given to a person with whom they like to spend as much time as possible whereas a 1 would be given to a person with whom they did not like to spend time.

Perceived Popularity. Next, participants rated the other participating children in their class from 1 to 5 where 5 meant 'very popular' and 1 meant 'not at all popular'

Relational Aggression and Prosocial Behaviour. For the relational aggression and prosocial behaviour items, participants were asked to think about ‘how likely’ their peers would be to do each thing. They were shown a 5 point scale and reminded that a rating of 1 meant that the person ‘wouldn’t do it at all’ and a rating 5 meant that the person would be ‘very likely to do it’. The questions were as follows:

‘For each person on the list, think how likely they would be to spread a rumour about someone to put other people off that person’ (*rumour*)

‘For each person, think how likely they would be to leave someone out of their group if they were mad at them and wanted to get back at them’ (*keep out*)

‘For each person, think how likely they would be to help someone else out if they needed it for example, if someone else was sad and needed cheering up’ (*prosocial behaviour*)

Participants were encouraged to ask questions if they were not sure what they were supposed to be doing and clarification or further explanation of the task was given where necessary.

Results

Preparation of Data

Examination of the distributions of study variables indicated that the self worth, self report relational victimisation and peer report relational aggression data were all significantly skewed. Standard transformations (square root, logarithm and inverse) were used to achieve acceptable standardised skewness scores and normally distributed data. Where measures were repeated the same transformations were used

for the data at both TP1 and TP2 to ensure that they were directly comparable. It is the newly calculated scores which are presented in tables throughout.

Correlations between Different Informants

At TP2, relational aggression was rated by a number of different informants. Correlations were carried out in order to measure the association between the data from different informants (see Table 1).

Table 1

Correlations between Different Informants' Reports of Relational Aggression at TP2

Variable	1.	2.	3.	4.
1. Self report RA	-	.18*	.23**	.25**
2. Teacher report RA		-	.39***	.36***
3. Peer report RA (rumour)			-	.82***
4. Peer report RA (keep out)				-

Note. RA = relational aggression.

* $p < .05$. ** $p < .01$. *** $p < .001$.

As can be seen, there is a statistically significant association between the reports obtained from different informants. However, it is noteworthy that the correlations between self reports and teacher and peer reports are modest considering they are theoretically measuring the same construct.

Gender Differences in Relational Aggression and Victimisation

Before hypothesis driven analyses were conducted, an independent samples t test was used to check whether there were significant gender differences on the main variables of interest. The results of this analysis are shown in Table 2.

Table 2

Independent t tests Examining Gender Differences on Major Aggression and Victimization Variables

Variable	Boys		Girls		Gender differences		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
<i>TP1</i>							
Self report RA	1.69	0.52	1.52	0.44	-1.99*	156	.05
Self report RV	1.80	0.76	1.86	0.70	0.86	152	.39
<i>TP2</i>							
Self report RA	1.49	0.49	1.39	0.40	-1.08	159	.28
Self report RV	1.68	0.63	1.59	0.57	-0.78	154	.44
Teacher report RA	1.61	0.66	1.42	0.56	-2.03*	140	.04
Peer report RA (rumour)	2.25	0.67	1.95	0.67	-2.95*	159	.00
Peer report RA (keep out)	2.21	0.57	2.10	0.68	-1.35	159	.18

Note. RA = relational aggression; RV = relational victimisation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

As can be seen, there are statistically significant gender differences on a number of the key variables, namely self reported relational aggression at TP1, teacher rated relational aggression, and one measure of peer reported relational aggression. For this reason, the rest of the analysis is conducted separately for boys and girls (Crick & Bigbee, 1998; Prinstein et al., 2001). As there are approximately half as many boys as girls, findings which approach significance for boys will be reported.

Changes in Relational Aggression and Victimization over Two Time Points

Paired samples *t* tests were carried out to consider the change in self reports of relational aggression and victimisation across the two time points; the first soon after transition and the second two terms later. For boys, self reported relational aggression was significantly higher at TP1 ($M = 1.36$, $SE = 0.03$) than at TP2 ($M = 1.26$, $SE = 0.03$, $t(51) = -3.34$, $p < .01$). There was no significant change in boys' self reports of relational victimisation. For girls, self reported relational aggression was also significantly higher at TP1 ($M = 1.28$, $SE = 0.02$) than at TP2

($M = 1.22$, $SE = 0.02$, $t(105) = 2.71$, $p < .01$). However, girls relational victimisation was significantly higher at TP1 ($M = 1.38$, $SE = 0.02$) than at TP2 ($M = 1.30$, $SE = 0.02$, $t(103) = 3.63$, $p < .001$).

Correlations between Major Variables

Before carrying out analyses to consider predictive models, correlations between the major variables were examined in line with the study's hypotheses. These are reported in Table 3.

Correlates of Relational Victimisation

Self Worth. For boys, the only significant association between self worth and relational victimisation was a negative concurrent association between self worth and self reported relational victimisation at TP2. For girls, self worth at TP1 was significantly negatively associated with self reported relational victimisation at TP1 and TP2. Self worth at TP2 was also significantly negatively correlated with self reported relational victimisation at both time points.

Emotional Intelligence. The intrapersonal and adaptability subscales were not significantly correlated with any variables of interest so these subscales are not represented in the table.

For girls, the stress management subscale was significantly negatively associated with concurrent and subsequent self reports of relational victimisation. For boys, stress management EQ at TP1 was significantly negatively associated with self reports of relational victimisation at the same time point.

Loneliness. For boys, earlier self reports of relational victimisation were significantly positively associated with later self reports of loneliness. For girls, self

reported relational victimisation at both time points was significantly positively associated with self reports of loneliness at TP2.

Social Preference and Perceived Popularity. For girls, self reports of relational victimisation were unrelated to peer rated social preference and perceived popularity. For boys, however, self reports of relational victimisation at TP1 were significantly negatively correlated with later peer rated social preference, and self reports of victimisation at TP2 also tended to be negatively related to peer ratings of social preference. In addition, boys' self reports of relational victimisation at TP2 were concurrently negatively associated with peer rated perceived popularity.

Correlates of Relational Aggression

Self Worth. For boys, there was a significant negative association between self worth at TP1 and later peer and teacher reports of relational aggression. The negative relationship between self worth at TP2 and concurrent teacher reports approached significance.

For girls, there were significant concurrent negative associations between self worth and self report of relational aggression at TP1 and TP2 but associations between self worth and others' reports of relational aggression were not significant.

Emotional Intelligence. For boys, the negative association between interpersonal EQ and later teacher rated relational aggression was significant. Peer ratings of relational aggression also tended to be associated with previous lower scores on interpersonal EQ. The stress management subscale was significantly negatively associated with later self and teacher reports of relational aggression.

For girls, interpersonal and stress management EQ were both significantly negatively associated with later self reports of relational aggression.

Loneliness. There were no significant associations between relational aggression and loneliness, only a tendency for peer reports of relational aggression to be concurrently associated with self reports of loneliness for boys.

Social Preference and Perceived Popularity. Self reports of relational aggression were unrelated to peer rated social preference and perceived popularity for boys and girls. However, for both boys and girls, peer ratings of relational aggression were significantly negatively correlated with peer rated social preference. For girls, social preference was also significantly negatively correlated with teachers' ratings of relational aggression.

Table 3

Correlations between Major Variables at TP1 and TP2

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
TP1																
1. Self worth (S)	-	.23 ⁺	.17	-.04	-.19	.55***	.34*	.41**	-.30*	-.16	-.22	-.26 ⁺	-.39**	-.45**	.14	.13
2. Interpersonal EQ (S)	.17	-	.08	-.26*	-.02	.31*	.62**	.24 ⁺	-.23 ⁺	-.15	-.09	-.27*	-.24 ⁺	-.17	.41**	.22 ⁺
3. Stress management EQ (S)	.23**	.09	-	-.12	-.35**	.12	.09	.67***	-.08	-.35**	-.13	-.28*	-.12	-.11	.02	-.22
4. RA (S)	-.23**	-.27**	-.23	-	.06	-.01	-.10	-.05	.15	.48***	.37**	.21	.08	.01	-.11	-.04
5. RV (S)	-.21*	-.04	-.31**	.25**	-	-.13	-.10	-.29*	.38**	.33*	.59***	-.02	.25 ⁺	.16	-.36**	-.18
TP2																
6. Self worth (S)	.62**	.08	.34**	-.13	-.31**	-	.18	.34*	-.49***	-.17	-.32*	-.27 ⁺	-.22	-.17	-.04	-.02
7. Interpersonal EQ (S)	.07	.37***	.20*	-.31**	.09	.25**	-	.11	-.23 ⁺	-.30*	-.02	-.10	-.32*	-.29*	.40**	.21
8. Stress management EQ (S)	.19*	.13	.62***	-.15	-.33**	.41***	.20*	-	-.28*	-.35*	-.24 ⁺	-.36**	-.26 ⁺	-.25 ⁺	.15	-.04
9. Loneliness (S)	-.20*	-.17 ⁺	-.23*	.13	.39***	-.40***	-.16 ⁺	-.26**	-	.22	.41**	.06	.23	.23 ⁺	-.23 ⁺	-.21
10. RA (S)	-.17 ⁺	-.26**	-.19*	.44**	.15	-.20*	-.27**	-.32**	.14	-	.53**	.24 ⁺	.23	.18	-.06	.11
11. RV (S)	-.22*	-.12	-.25**	.33**	.44***	-.28**	-.08	-.25*	.46***	.38***	-	.08	.15	.10	-.27 ⁺	-.45**
12. RA (T)	-.04	-.07	.01	.07	-.02	-.07	-.07	-.05	-.01	.11	-.00	-	.23 ⁺	.21	-.17	.08
13. RA (P) (rumour)	.07	-.08	-.08	.10	.14	-.08	-.16	-.20*	-.04	.21*	.23*	.45***	-	.89***	-.34**	.16
14. RA (P) (keep out)	.04	-.06	-.01	.12	.05	-.08	-.09	-.16	-.03	.27**	.25**	.42**	.80**	-	-.27*	.15
15. Social preference (P)	-.02	.29**	-.03	-.09	-.01	.15	.18	-.05	-.37***	-.14	-.06	-.28**	-.20*	-.25**	-	.55***
16. Perceived popularity (P)	.07	.22*	-.00	-.16	-.10	.20*	.25**	.07	-.51***	-.08	-.13	.01	.13	.11	.70**	-

Note. RA = relational aggression; RV = relational victimisation; (S) = self report; (T) = teacher report; (P) = peer report. Statistics reported are Pearson's correlation coefficients. Correlations for boys are presented above the diagonal. Correlations for girls are presented below the diagonal.

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Predicting Relational Aggression and Victimisation from Earlier Self Report

Data

Analyses were carried out to determine which potential predictors, measured at the first time point, were most strongly associated with later self reports of relational aggression and victimisation after controlling for shared variability in the variables of interest. Measures of relational aggression, relational victimisation, self worth and two aspects of emotional intelligence at TP1 were entered together as a block into each multiple regression as shown in Table 4.

Table 4

Relative Contributions of Potential Predictors (all at TP1) to Later Relational Aggression and Victimisation (TP2)

Dependent variable	Predictor	Girls		Boys	
		β	t	β	t
RA (TP2)	RA TP1	.36***	3.65	.45***	3.55
	RV TP1	.02	0.26	.16	1.16
	Self worth TP1	-.02	-0.16	.13	-1.00
	Interpersonal EQ TP1	-.13	-1.38	.04	0.27
	Stress management EQ TP1	-.08	-0.87	-.22	-1.65
	Total R^2	.21***		.37***	
RV (TP2)	RA TP1	.23*	2.36	.34**	
	RV TP1	.35***	3.76	.62***	
	Self worth TP1	-.02	-0.17	-.20	
	Interpersonal EQ TP1	.01	0.08	.05	
	Stress Management EQ TP1	-.09	-1.04	.25 ⁺	
	Total R^2	.26***		.50***	

Note. RA = relational aggression; RV = relational victimisation.

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

The combination of unique and shared variability (total R^2) accounted for between 21% and 50% of the variance in relational aggression and victimisation. The amount of variance accounted for was higher for boys than girls and greater for

relational victimisation as compared to relational aggression. For both boys and girls, earlier relational aggression was the only variable which accounted for unique variability in measures of later relational aggression. In the regression on relational victimisation, both relational aggression and relational victimisation accounted for unique variability and this was the case for boys and girls.

Predicting Loneliness and Self Worth from Earlier Self Report Data

Similar analyses were conducted to consider the relative contributions of self reported relational aggression, relational victimisation and received prosocial behaviour to later self reports of self worth and loneliness.

Table 5

Relative Contributions of Potential Predictors (all at TP1) to Later Loneliness and Self Worth (TP2)

Dependent variable	Predictor	Girls		Boys	
		β	t	β	t
Loneliness (TP2)	RA TP1	.02	0.17	.08	0.58
	RV TP1	.33**	3.47	.28 ⁺	1.92
	Received prosocial behaviour TP1	-.22*	-2.36	-.22	-1.50
	Total R^2	.20***		.19*	
Self worth (TP2)	RA TP1	-.03	-0.32	-.01	-0.04
	RV TP1	-.28**	-2.86	-.20	-1.21
	Received prosocial behaviour TP1	.09	0.91	-.16	-0.99
	Total R^2	.10**		.04	

Note. RA = relational aggression; RV = relational victimisation.

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 5, the combination of unique and shared variability (total R^2) accounted for between 4% and 20% of the variance in self worth and loneliness. In these analyses, the amount of variance accounted for was higher for girls than boys and greater for loneliness than it was for self worth.

For boys, relational victimisation contributed the most unique variability in loneliness but this only approached significance. In addition, the three predictors did not account for a significant amount of variance in self worth for boys. For girls, relational victimisation was the greatest contributor of unique variance to the prediction of low self worth and loneliness. For girls, receipt of less prosocial behaviour also contributed unique variance to loneliness.

Predicting Perceived Popularity and Social Preference

As the two peer report measures for relational aggression are highly correlated ($r = .83, p < .001$), entering them both into a multiple regression could have caused problems with multicollinearity. For this reason, a composite variable was created from the two measures and used in the regression analyses.

The analysis strategy of Cillessen and Mayeux (2004) was followed in that the form of status that was not the criterion was entered at Step 1. This was done to ensure that the other form of status did not confound the subsequently tested effects of aggression and prosocial behaviour.

As shown in Table 6, peer rated relational aggression reliably predicts perceived popularity, after controlling for social preference. This effect holds for both boys and girls. Additionally, after controlling for social preference and relational aggression, peer rated prosocial behaviour significantly contributed to the prediction of perceived popularity, again this was found for boys and girls.

Table 6

Summary of Hierarchical Regression Analyses Predicting Perceived Popularity from Relational Aggression and Prosocial Behaviour

	Girls				Boys			
	β	t	F	ΔR^2	β	t	F	ΔR^2
Step 1			124.55	.49***			24.75	.30***
Social preference	.70***	11.16			.55***	4.98		
Step 2			26.68	.09***			12.55	.13***
Social preference	.77***	13.07			.67***	6.30		
RA	.30***	5.17			.38***	3.54		
Step 3			17.65	.05***			8.00	.07**
Social preference	.60***	8.09			.44***	3.46		
RA	.42***	6.78			.69***	4.62		
Prosocial behaviour	.33***	4.20			.52**	2.83		
Total R^2				.62				.50

Note. RA = relational aggression.

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

Summary of Hierarchical Regression Analyses Predicting Social Preference from Relational Aggression and Prosocial Behaviour

	Girls				Boys			
	β	t	F	ΔR^2	β	t	F	ΔR^2
Step 1			124.55	.49***			24.75	.30***
Perceived popularity	.70***	11.16			.55***	4.98		
Step 2			33.08	.10***			18.27	.17***
Perceived popularity	.74***	13.07			.62***	6.30		
RA	-.33***	-5.75			-.42***	-4.27		
Step 3			11.14	.03***			9.16	.08**
Perceived popularity	.58***	8.09			.40**	3.46		
RA	-.18*	-2.48			.01	0.05		
Prosocial behaviour	.27**	3.34			.52**	3.03		
Total R^2				.62***				.55***

Note. RA = relational aggression.

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 7, peer rated relational aggression has a reliable negative effect on social preference, after controlling for perceived popularity. This is true for both boys and girls. Also, after controlling for perceived popularity and relational aggression, peer rated prosocial behaviour significantly contributed to the prediction of social preference, again this is the case for boys and girls.

Does EQ moderate the relationship between relational aggression and perceived popularity?

The hypothesis that the relationship between relational aggression and perceived popularity might be moderated by emotional intelligence was tested using hierarchical multiple regression. This method was preferred to ANOVA for this purpose as it preserves the continuous nature of the data and avoids creating artificial groups through median splits (Aiken & West, 1991). A hierarchical multiple regression on perceived popularity was carried out with social preference was entered as a covariate in Step 1. At Step 2, the independent variable (peer reported relational aggression) and the hypothesised moderator (emotional intelligence) were entered, followed by an interaction term (relational aggression x emotional intelligence) in Step 3. All of these variables were measured concurrently at TP2. A moderator effect would be indicated by the significant effect of the interaction term after controlling for the independent variable and moderator (Baron & Kenny, 1986).

The covariate, moderator and predictor variables were centred to reduce problems of multicollinearity between variables and interaction terms. To ensure that the covariate acted consistently at different levels of the other variables, interaction terms for the covariate and other variables were added in a final step. No

significant interactions were identified and so this step was dropped (Frazier, Tix & Barron, 2004).

Table 8

Summary of Hierarchical Regression Analyses Testing Whether Emotional Intelligence Moderates Association of Relational Aggression with Perceived Popularity

	Girls				Boys			
	β	t	F	ΔR^2	β	t	F	ΔR^2
Step 1			130.15	.54***			26.93	.35***
Social preference	.74***	11.41			.59***	5.19		
Step 2			16.57	.11***			2.94	.07
Social preference	.76***	13.12			.68***	5.79		
RA	.31***	5.36			.28*	2.24		
EQ total	.17**	2.91			-.02	-0.14		
Step 3			3.05	.01 [†]			0.55	.01
Social preference	.78***	13.35			.69***	5.81		
RA	.35***	5.69			.27*	2.18		
EQ total	.18**	3.13			-.02	-0.19		
RA x EQ total	.11 [†]	1.75			-.08	-0.74		
Total R^2				.67***				.43***

Note. RA = relational aggression.

[†] $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

The results of the analyses testing for a moderating effect of emotional intelligence on the relationship between relational aggression and perceived popularity are shown in Table 8. The results of Step 2 indicate that for girls, relational aggression and emotional intelligence do both significantly predict perceived popularity, after controlling for social preference but the total amount of variance (R^2) accounted for is modest.

The results also show that the interaction term did not have a significant effect on the outcome variable (perceived popularity), after controlling for the predictor (relational aggression) and potential moderator (emotional intelligence). However,

for girls the contribution of the interaction terms did approach significance. As this study is the first to test this particular hypothesis, the nature of the interaction was examined by plotting it in a graph (see Figure 1).

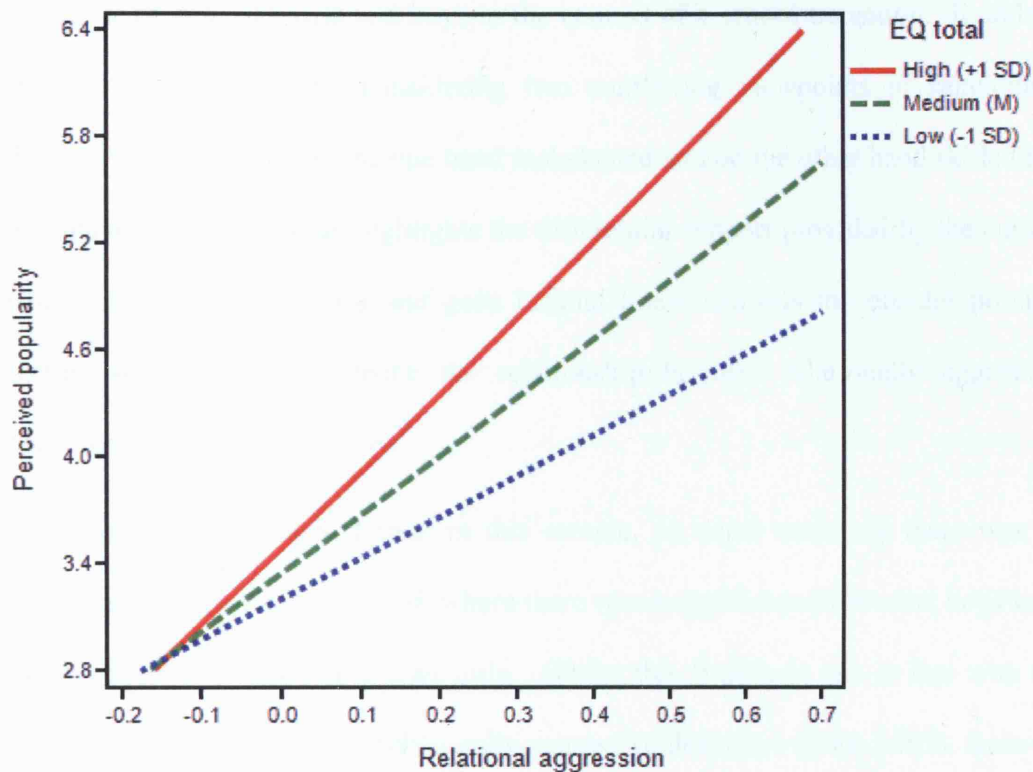


Figure 1. Graph showing moderating effect of emotional intelligence on the relationship between relational aggression and perceived popularity (for girls only).

Figure 1 shows that, for girls, at all three levels of emotional intelligence, higher relational aggression is associated with increasing perceived popularity. However, the magnitude of increase is greater with higher levels of emotional intelligence.

Nonetheless, it remains important to remember that in this sample, emotional intelligence did not significantly moderate the relationship between perceived popularity and relational aggression. This means that the interaction depicted in Figure 1 only approaches significance.

Discussion

The present research examined associations between emotional intelligence, self worth, relational victimisation, relational aggression and two forms of social status for 11 to 12 year old girls and boys in the context of a school transition. It adds to the existing literature by considering two conflicting viewpoints of relationally aggressive children as, on the one hand maladapted and on the other hand skilled and Machiavellian. This study highlights the differential support provided by the current results for each perspective and goes beyond linear analysis to consider possible factors which might moderate the relationship between relationally aggressive behaviour and social outcomes.

Initial analyses showed that, in this sample, on some measures there was no significant gender difference and, where there was a significant difference, boys were more relationally aggressive than girls. Whilst this finding is not in line with the argument that girls are more relationally aggressive than boys (Côté, 2003), there are a number of other studies which have found no gender difference (Hart et al., 1998; Loukas et al., 2005; Stauffacher & DeHart, 2006) or which have found boys to be more relationally aggressive (McEvoy et al., 2003; Tomada & Schneider, 1997).

Descriptive analyses also identified significantly higher relational aggression (boys and girls) and relational victimisation (girls only) at the first time point, which was near the beginning of the school year. It is possible that children find themselves under pressure to form friendships when they start out in a new social environment. This pressure, coupled with a need to establish social status and a favourable social position, might lead to a higher rate of relational aggression shortly after the point of transition which then declines over the course of the year. This

argument has certainly been advanced in the literature using a more general definition of bullying (Pellegrini & Long, 2002).

In this study, the strongest predictors of aggression and victimisation over the transition from primary to secondary school were previous aggressive behaviour and prior experiences of being victimised. Specifically, relational aggression was most strongly predicted by previous relational aggression. However, unique variance in later relational victimisation was accounted for both by earlier aggressive behaviour and previous reports of victimisation. In this study then, the strongest predictor of future behaviour was prior behaviour. These findings might also indicate that there is a stronger pathway from previous aggression to later victimisation than there is from previous victimisation to later aggression (Ostrov, 2007).

The findings regarding correlates of relational victimisation were largely concordant with previous studies and children who reported being relationally victimised also reported increased adjustment difficulties (Prinstein et al., 2001). Specifically, relational victimisation was associated with lower self worth, lower emotional intelligence (one subscale only) and higher levels of loneliness. For boys only, self reports of victimisation were also, at times, related to lower social preference and lower perceived popularity. There were other gender differences in the associations found, for example, relational victimisation was only related to low self worth for boys at one time point whereas for girls this association held across and within time points. This fits with previous findings that girls report experiencing more distress as a result of being relationally victimised (Goldstein & Tisak, 2004; Paquette & Underwood, 1999). Analyses considering predictors of adjustment also revealed that lower self worth and loneliness were most strongly predicted by relational victimisation and this finding was strongest for girls. Again this suggests

that girls are more affected by these experiences. For girls, loneliness was also predicted by lower received prosocial behaviour. This corresponds with previous findings that receipt of prosocial acts from friends may engender resilience to the negative effects of relational victimisation (Storch & Masia-Warner, 2004).

The results regarding relational aggression reflected the mixed nature of previous findings. Descriptive analyses regarding relational aggression were in keeping with the view that children who aggress in this manner tend to be more poorly adapted. There was a negative association between self worth and relational aggression although this relationship only held for self reports of aggression for girls and for peer and teacher reports of aggression for boys. Emotional intelligence was also negatively correlated with relational aggression and the same gender pattern was found, with significant findings being within informant for girls and between informants for boys. Finally, social preference was negatively associated with peer rated relational aggression for boys, and with peer and teacher rated relational aggression for girls.

However, not all findings supported the view that relational aggression is wholly maladaptive. Notably, after controlling for social preference, relational aggression reliably predicted perceived popularity for boys and girls. This finding did not extend to both forms of social status and after controlling for perceived popularity, relational aggression was found to have a significant negative effect on social preference, again this finding held across genders. This differential effect of relational aggression on social preference and perceived popularity is congruent with previous findings (Cillessen & Mayeux, 2004; Prinstein & Cillessen, 2003). Prosocial behaviour had a more consistent effect across both forms of social status,

positively predicting both perceived popularity and social preference after controlling for the other form of status and relational aggression.

It has been suggested that children who are more skilled in the way they use relational aggression may derive benefits such as popularity in a way that children who are less skilled do not (Rose, Swenson & Waller, 2004). Previous efforts to demonstrate this idea have included distinguishing between reactive and proactive forms of aggression and looking at social intelligence. This study made the important step of synthesising the ideas around status and social skill to consider whether emotional intelligence would moderate the relationship between relational aggression and popularity. Specifically it was predicted that the relationship between relational aggression and perceived popularity would be strongest for children who reported higher emotional intelligence. Whilst relational aggression positively predicted perceived popularity, emotional intelligence did not significantly strengthen this relationship for either boys or girls. However, for girls, the contribution of the interaction term in the hierarchical regression analyses did approach significance. When this interaction was plotted, it was evident that at all three levels of emotional intelligence, higher relational aggression was associated with increased popularity. However, the magnitude of increase was greater with higher levels of emotional intelligence. Whilst it is important to bear in mind that this effect only approached significance, it is interesting to consider possible implications of this finding if it were to be replicated in future studies.

Reliable replication of the finding that relationally aggressive behaviour is most strongly associated with popularity for children with higher emotional intelligence could be interpreted in a number of ways. It could be argued that such findings strengthen the argument that some children are skilled, Machiavellian even, in the

way in which they are relationally aggressive and thus derive considerable benefits from their behaviour (Hawley, 2003; Rose et al., 2004). A different angle from which to view these results is to focus on the less emotionally intelligent children for whom relational aggression was more weakly linked to popularity. This viewpoint fits more with research showing that relational aggression is associated with lower positive peer regard for girls diagnosed with Attention-Deficit Hyperactivity Disorder Combined-type (ADHD-C) but not for girls with ADHD Inattentive-type or girls with no diagnosis (Zalecki & Hinshaw, 2004). In this case, it may be a lack of subtlety or greater impulsivity that causes the aggression of the girls with ADHD-C to attract greater censure. In adopting either view, it is essential to remember that neither the studies of Rose et al. and Hawley, nor the research of Zalecki and Hinshaw speak to the wider adjustment of the children on which they focus. It may be implied that the skilled, aggressive and popular children in the former studies are well adjusted and that the aggressive girls diagnosed with ADHD and lacking positive peer regard in the latter studies are poorly adjusted but as yet there is no evidence to confirm this (Cillessen & Rose, 2005).

Overall then, the findings of the present study were concordant with the accepted view of relationally victimised children as poorly adapted. Relational victimisation was found to be associated with lower self worth, lower emotional intelligence and more loneliness. These associations were generally stronger for girls although an exception to this was that, for girls, victimisation was not related to social preference or perceived popularity as it was for boys. In addition, receipt of prosocial behaviour emerged as a possible buffer against the negative effects of victimisation for girls. The picture regarding children who initiate acts of relational aggression was less clear and mirrored the divide in the literature. Relational aggression was related to

lower self worth, lower emotional intelligence and lower social preference. However, a positive association between relational aggression and perceived popularity was also found, a relationship that was not significantly moderated by emotional intelligence, although the moderating effect of emotional intelligence did approach significance for girls.

These findings indicate a number of possible avenues for future research. This study looked at emotional intelligence as one construct which might moderate the relationship between aggression and popularity. There are other self report questionnaires which also purport to measure emotional intelligence, such as the Trait Emotional Intelligence Questionnaire (Petrides, Sangareau, Furnham & Frederickson, 2006). It would also be interesting to consider somewhat related constructs such as social skill and social sensitivity. These constructs can be measured by self report, parent or teacher report and, in the case of social sensitivity, by means of testing (Baron-Cohen, Wheelwright, Hill, Raste & Plumb, 2001; Bell-Dolan & Allan, 1998; Gresham & Elliot, 1990).

Another important direction for future studies will be to consider whether children who are both popular and relationally aggressive are affected by difficulties described in previous studies such as lower social acceptance, internalising difficulties and conflict in friendships (Murray-Close, Ostrov & Crick, 2007; Sebanc, 2003; Werner & Crick, 2004). In the future, this notion could be tested by research incorporating more established maladaptive correlates of relational aggression such as internalising problems and friendship conflict alongside measures of relationally aggressive behaviour and perceived popularity. Carrying out more inclusive studies in the future will represent a further step towards integrating what have previously seemed to be conflicting views of relationally aggressive children. A fuller

understanding of the coexistence of relational aggression, adjustment difficulties and popularity may also come from more qualitative and ethnographic studies (Adler & Adler, 1995). Such studies provide rich data and remind us how important it is to situate what is essentially a social behaviour in a broader social context and to consider it as part of dynamic group processes. They may also help us to consider, in a more ecologically valid way, how relationally aggressive behaviour is perceived and how this perception affects the aggressor. Gaining a balanced view which assimilates the positive and negative correlates of relational aggression is an important direction for future research as it will contribute to a fuller and more integrated understanding of both the benefits and difficulties associated with relational aggression for those who initiate these behaviours. Such research may lead to further recognition that relationally aggressive children are likely to be a heterogeneous group and this, in turn, could lead to more effective interventions.

This is the first study that we know of in this area, to use a short-term longitudinal design to consider the period just after the transition from primary school to secondary school. This is a very interesting time to study relational aggression as, not only does the transition take place at an age when relational aggression is particularly salient for children, it also captures a period of intense social reorganisation and adjustment when social types of aggression may be more prevalent. This was also the first piece of research to bring together different stances on the correlates of relational aggression and to consider incompatible characterisations of relationally aggressive children, directly testing the claim that skilled children derive benefits from aggression. Further development of this synthesis of views may allow future consideration of the likely heterogeneity of children who initiate acts of relational aggression and the possibility that benefits and

difficulties may concurrently result from this behaviour. Furthermore, this study used a multi informant approach to minimise difficulties with shared method variance. This approach was also taken in light of the fact that, for behaviours that can be seen as socially undesirable, it might be more valid to gain information from sources as well as from the participant themselves.

This study has a number of limitations. Although there were multiple informants at the second time point, only self report data could be obtained at both time points as participants' teachers and peers had not known them for long enough to provide data at the earlier time point. In addition, due to the difficulties of school recruitment and the higher interest expressed by single sex schools for girls, there was an uneven proportion of boys and girls in the sample. The peer report data were affected by this bias in recruitment because participants at girls' schools were only rated by other girls whilst the participants at the mixed school were rated by both boys and girls. This did not seem to affect the scores of the girls in that they did not differ significantly from those of the girls at all girls' schools. However, because it was not possible to know the effect on the boys' scores, analyses of the data for boys was carried out separately. This meant there was a lack of power in the analyses carried out for boys.

This study does not have any direct clinical implications but it does raise some issues of possible interest to schools and clinicians. The findings of this study suggest that the period shortly after a transition may be particularly important in terms of seeking to prevent and manage relational aggression. This study also adds further weight to the idea that girls suffer more distress as a result of relational victimisation and it may be that their experiences lead to an increased level of internalising difficulties. This is therefore an important area for clinicians to

consider in assessing children, especially girls, who are undergoing school transition and experiencing peer problems. Finally, if further research confirms the idea that children experience both difficulties and benefits when they are relationally aggressive, conceptualisations of these children as Machiavellian may need to be revised. Whereas labelling children as Machiavellian may lead to unsympathetic treatment and punitive interventions, consideration of problems encountered by relationally aggressive children would engender understanding and, possibly, interventions more focused on skills training, peer mentoring and mediation.

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Part 3:

Critical Appraisal

This appraisal is broadly separated into two sections. The first part of the appraisal incorporates material specific to my study such as reflection on the process of recruiting schools and participants, reasoning behind methodological decisions and negotiation of ethical dilemmas. The second part of this appraisal discusses issues in the wider field of relational aggression research which I became aware of in the course of designing, carrying out and writing up my research. This section focuses on questions of measurement and interpretation of data.

Issues Specific to my Study

Recruitment – Introduction of Bias and Effects on Generalisability

Having conceived and designed the research study, I was keen to recruit schools whose pupils were from a range of ethnic and socioeconomic backgrounds. In total, 28 schools were invited to take part, 7 expressed initial interest and, after further discussion of the details of the research, 5 agreed to take part. Due to very low initial consent rates in 2 of these 5 schools, only 3 schools are included in the final study.

Two main biases were apparent throughout the school recruitment process although it seems likely that other, less apparent biases were also operating. Firstly, schools that were recruited were all aware of and managing issues related to bullying and one school had a special interest in preventing and reducing bullying. Schools who are struggling with high rates of bullying might have found taking part in the research quite exposing. They might also have been more worried about the measures being reactive. This bias may mean that participants in this study experience less frequent or less intense victimisation or have access to better sources of help than pupils in non recruited schools.

Secondly, girls' schools were more interested in the topic of the research and seemed to feel that it was more relevant to them. This might reflect differences in the perceived or actual prevalence of this type of aggression in mixed and single sex schools. It would have been better methodologically to have had an equal balance of girls' and mixed schools, and to have matched the schools on some basic criteria. Unfortunately, the difficulties of recruitment meant that this was not possible. A consequence of this bias is that differences found between the mixed and girls' schools could be due to school context (e.g. policies on bullying, intake, school atmosphere) and cannot be generalised.

Once five schools had agreed to take part and recruitment of participants began at the beginning of the school year, another notable source of bias became apparent. In the two schools in relatively affluent areas, the consent rate was similar and school staff reported few difficulties in getting forms returned. In the three schools in relatively disadvantaged areas, barriers relating to issues of language, literacy and interest led to much lower levels of consent. Innovative methods to obtain consent were tried, such as having a stall at a parent-teacher consultation day. However, due to tight time constraints, such methods could only be employed to a limited extent and the teachers at the two schools with the lowest consent levels agreed that it would not be possible to complete the research with so few participants. The schools from which participants were drawn are therefore unrepresentative of state schools in the London area in terms of the socioeconomic status and ethnicity of the pupils and their families.

The sample thus differs in a number of ways from the population from which it was taken. The participants attended schools which were possibly more informed about issues relating to bullying and its management, and there was definitely an

uneven gender balance in the sample. Finally, compared to the potential population of participants at schools in London and its surrounds, the sample was overall of higher socioeconomic status and lower ethnic diversity.

It seems intuitive that the differences in school context would make a difference to children's peer experiences. However, thus far there is little research to confirm the effect of school policy and interest in bullying on prevalence of relational aggression. There is more evidence to suggest that where schools take actions to reduce bullying, there are meaningful improvements in levels of bullying as defined more generally (Smith, Pepler & Rigby, 2004). The gender imbalance does affect the generalisability of the findings, particularly those for boys, as the boys were all drawn from one school, unlike the girls in the sample who came from three different schools. Finally, whilst lower socioeconomic status has been indicated as a risk factor for physical aggression (Tremblay et al., 2004), there is little research to suggest whether this is also the case for relational aggression (Dhami, Hoglund, Leadbeater & Boone, 2005) and thus the effect of this bias is not known.

In order to overcome these problems in future research, a number of measures might be taken. Mixed schools could be targeted more actively and more emphasis could be placed on the relevance of relational aggression for both boys and girls. Research could be pared down as much as possible so that it is minimally time consuming for participating schools, as long as this is not at the cost of asking relevant questions and collecting sufficient data to address these research questions. Finally, research designs could allow more time for a prolonged period of recruitment. Consent forms and information sheets could be made more accessible to parents and participants through translation and availability online. Also, more

opportunities could be provided for parents to meet researchers and thus become more interested and engaged in the research, for example at parents' evenings.

Measures Omitted from Empirical Paper

The research design initially included two measures which are not reported in the final write up. These were a self report of moral reasoning about aggression, using the Moral Reasoning about Aggression measure (Murray-Close, Crick & Galotti, 2006) and a parent report of child temperament using the Early Adolescent Temperament Questionnaire (Ellis & Rothbart, 2001). Parents were also asked to give some brief information about their marital status, education and occupation.

The decision was taken to not report on the moral reasoning about aggression measure because analysis of the data revealed that it was not effective at discriminating between participants' views on how wrong and harmful different forms of aggression are. In retrospect, the design and layout of the measure encouraged a response set. Most participants therefore gave the same pattern of answers for each three part question, indicating that they thought all forms of aggression were maximally and equally wrong and harmful. This measure has previously been used with younger children and it may also have been the case that the participants in my study were more aware of giving socially desirable answers.

In retrospect, I think that if I had formulated my research question more precisely at the outset, I would not have included a measure of moral reasoning about aggression as it would not have added to my analysis and conclusions. In any case, a pilot run of the measures with children of the target age group would have revealed the problem with the lack of variation in responses. Excluding this measure would have made the packs shorter and less time consuming for the participants.

The parent report was omitted because only 50% of the parents of participants returned the measures. These measures were sent home with participants and a freepost envelope was attached so that they could be returned directly to UCL. This method of return was used as it was felt that no completed measures would then be lost on their way back into school. Also, it was felt that it would emphasise to parents the anonymous nature of the research and the fact that it was completely external to school.

Unlike the measure of moral reasoning about aggression, I think it would have added to the study if I had been able to collect enough data from parents to carry out analyses looking at associations between relational aggression and victimisation and child temperament. Having a measure of parental marital status, education and occupation would also have been useful as, whilst these data are collected routinely in studies on physical aggression, they are often omitted in studies of relational aggression. In spite of the potential benefits of having this information, I think it was probably unrealistic to expect an acceptable return rate using the method that I employed. Having underestimated the task of recruiting willing schools, I was left with less time to carry out measures and less time in which to work on maximising response rates.

Peer Report Procedures: Design

The most widely used model of peer report in the relational aggression literature is that where children are asked to nominate either the top three or an unlimited number of peers who best fit different categories, such as most popular or most likely to act in a certain way (Cillessen & Mayeux, 2004; Crick & Grotpeter, 1995). It was decided that, as fewer than half the children in some schools were participating in the

research, it would not be possible to use this method. Peer nomination can only take place from lists of the children who are participating as it is not ethical to allow children to nominate children in their class who have not consented to take part in the research. Under these conditions, a nomination method might not give valid results, especially if the most relationally aggressive children were not participating in the research.

It was decided then, to follow another peer report method where children give ratings to all participating peers (Parker, Rubin, Price & DeRosier, 1995). Specifically, participants were asked to rate each of their participating peers on a five point scale in response to five different questions. These questions elicited ratings of social preference, perceived popularity, relational aggression and prosocial behaviour. A weakness attributed to the ratings method, as opposed to nomination methods, is that it does not allow calculation of traditional sociometric categories (Parker et al., 1995). Research using these sociometric categories has identified a number of interesting features that distinguish popular, rejected, neglected, controversial and average children from one another (Rubin, Bukowski & Parker, 2006). However, as I wished to use the data to gain an overall rating of social preference and perceived popularity, this did not present a problem. Moreover, I subsequently discovered a computer programme that has been designed to calculate sociometric categories from ratings data (Maassen, van der Linden, Goossens & Bokhurst, 2000).

It was still important for this research that a ratings method would enable me to calculate social preference and perceived popularity scores that would be comparable to constructs used in previous studies. Research carried out using both nomination and ratings methods to look at acceptance, rejection and preference with the same

sample, found that, certainly for social preference, scores derived from the two methods were not significantly different (Bukowski, Sippola, Hoza & Newcomb, 2000).

Peer Report Procedures: Ethical Administration

Although peer report measures are used extensively in this and other related fields of research and no problems are reported, I had reservations about carrying out these measures. I was concerned that asking children to think about how well they got on with their peers and how likely their peers were to be relationally aggressive, might possibly cause some children to become upset. Given these concerns, I consulted the literature in detail to check for evidence that peer report measures might be harmful. I was reassured by reading a piece of research which had asked children about their reactions to completing positive and negative peer nomination measures (Iverson, Barton & Iverson, 1997). This research concluded that no children reported their feelings being hurt or knowing of anyone whose feelings had been hurt as a result of completing the measures. In addition, there was no evidence of obvious harm to participating children and this extended to children who reported being teased and having hurt feelings on a daily basis.

Nonetheless, I took some precautions prior to completing the measures with the children in the study. These precautions were formed through a process of discussion with teachers (both in and outside of the participating schools) and use of research supervision.

I alerted the teachers to the content of the measures so that they were aware that the children would be completing them on a given day. The majority of the measures were filled out individually, allowing confidentiality to be emphasised and

judgment to be used as to whether the children were finding it uncomfortable to fill out the measures. In one school, the peer report measures were carried out in a group format, due to a strong preference expressed by the school. Fortunately, the excellent discipline in the school meant that it could be ensured that participants would not confer whilst filling out the measures. In both individual and group administration, emphasis was put on the fact that the measures were only being filled out for the purposes of the research and that no one would find out the responses. Finally, care was taken not to encourage value judgements regarding the actions that the children were rating their peers on. When they rated who they liked to spend time with, the measure was explained in such a way as to normalise the fact that there would be some children who they preferred to spend time with. When asking about relational aggression, the behaviours were not labelled as naughty or bad, just as something that some children might do.

Research findings that these measures are minimally reactive were borne out in this study. All the children who completed the measures individually were debriefed and reported no discomfort in filling out the measures. One girl did tell me that she had been bullied in her primary school but that things were better now. She volunteered this information and seemed happy talking about it. Where children commented on the measure, it was mostly to point out who they especially liked and to say that they did not know certain children very well and therefore found it difficult to rate them. Indeed, having worried greatly about this aspect of the research, I really enjoyed briefly meeting the children and, where they were talkative, hearing their views on the research. Reflecting on this aspect of the research, I think it would be extremely interesting and informative to carry out more qualitative

research in this area as children indicated that the subject of relational aggression was relevant in their lives and they had many ideas about it.

Issues in the Wider Field of Research

Measurement

Throughout the process of choosing measures and analysing the data yielded by the study, I was aware of possible problems with the validity of reports on relational aggression and victimisation and related concepts. I think that whilst issues of validity are acknowledged in many studies, the implications of biases which likely operate are not always fully explored.

Self reports are used very widely in this field with some studies relying entirely on self report measures. It has been argued that, as relational aggression is often covert, self report may be the most suitable method (Loukas, Paulos & Robinson, 2005). However, children may not always report their own relationally aggressive behaviour due to an awareness that it is not socially desirable. It could be that the children who report most accurately on their own behaviour differ systematically from those that do not and again this may limit the conclusions that can be drawn from any associations that are found. For example, if more impulsive children are more likely to report honestly on their behaviour then results from self report data are likely to show that impulsive children are more relationally aggressive (Musher-Eizenmann et al., 2004).

Children's self report on relational victimisation may also be subject to some bias. Children who are sensitive to interpersonal slights and upsets may also be more likely to be anxious or prone to depressive affect. This may present a confounding factor wherein reporting on relational victimisation is higher in children who are

particularly sensitive or less confident. This possibility was highlighted for me in the process of completing peer report measures with children. Some children would report that no one in their class behaved in a relationally aggressive way towards anyone and that most children in their class would help them out if they needed it. Other children, in the same class, rated many peers highly for relationally aggressive behaviour and lower for prosocial behaviour. This may have been due to the fact that the former group of children were not the subject of relational aggression. However, perceptions of interpersonal interactions are likely to vary from one child to another.

Teacher reports are also used quite widely. Some teachers who completed measures for this study reported that they did not feel they necessarily knew who in their class behaved in a relationally aggressive way, as these behaviours are not always directly observable. They may then have made their judgements based on other information such as how accepted a child is, how sociable a child seems or how disruptive a child is. This may lead to systematic biases in data, for example where teachers are asked to rate both relational aggression and peer rejection. Peers are privy to a number of events and experiences which teachers may not be party to. They might thus be able to report on peer behaviours which take place in contexts not accessible to teachers. However, peers are also likely to be influenced by reputational biases when rating their peers' aggressive behaviour.

Observational methods have been proposed as a possible objective measure of aggression and victimisation. One difficulty which has been noted is that relational aggression is often covert and may therefore not be amenable to observation (Merrell, Buchanan & Tran, 2006). Also, there are likely to be problems with

reactivity of measurement, especially given that relational aggression is not condoned in the school environment.

Levels of concordance between different sources of information are often reported, as I reported them in my study. Whilst the correlations between different informants' reports of relational aggression are generally significant, they are often modest given that they are essentially seeking to measure the same construct. One study looking at the concordance between observational methods, teacher and peer reports for preschool children noted that intermethod correlations for relational aggression were low to moderate. In addition, the different methods identified different children as the most aggressive and these differences were greater for relational aggression than for physical aggression (McEvoy, Estrem, Rodriguez & Olson, 2003). Research looking at intermethod agreement for other emotional and behavioural problems has also found that no one informant provides the same data as another type of informant with low to moderate correlations reported (Achenbach, McConaughy & Howell, 1987).

It is important to emphasise that I think the perspectives provided by different informants are both useful and interesting. What is crucial is that researchers acknowledge that, whilst different informants provide some common information, they also supply unique information. It is valuable to consider what this unique information is. Considering the perspectives provided by different informants may help us learn more about the construct under investigation. This process may also help us to make sense of why only some informants' reports of relational aggression are associated with a given variable.

The fascinating insights provided by taking this approach are exemplified in one study looking at correlates of a general measure of victimisation. Graham and

Juvonen (1998) found self-perceived victimisation to be predictive of intrapersonal consequences such as loneliness, anxiety and low self worth, whereas peer views of victimisation predicted interpersonal consequences such as peer rejection. The authors are open about possible problems with shared method variance and discuss possible differences between children who identify themselves as victimised and children who are identified as victimised by others. They also discuss how it is interesting to consider why, for some children, there is considerable discrepancy between informants whilst for others there is complete concordance. They suggest that peers may provide less accurate reports of more covert forms of victimisation. They also suggest that children may vary in their threshold for considering themselves victimised. The study concludes by noting that it is important to use a variety of reports in order to understand fully the impact of victimisation and also the contributions of an individual's reputation and feelings of vulnerability to their adjustment.

This study reminds us how important and interesting it can be to reflect on the meaning of differences in reports. The discussion above also indicates that information should be obtained from multiple informants where possible.

Impact of Beliefs and Values on Characterisation of Relational Aggression

In the course of carrying out this research, I found myself reflecting on the beliefs and values that might underlie pieces of research carried out by others working in the field of relational aggression. This was prompted, in part, by reading papers which begin by giving an account of the damage and upset caused to victims of relational aggression (Crick, et al., 2001; Underwood, 2003). These accounts may be intended to emphasise to the reader the importance of studying relational aggression.

However, these accounts are also quite emotive and might serve the function of cueing the reader into making a value judgement about how this behaviour is harmful and wrong.

This message is not universal and different researchers conceptualise relational aggression in different ways. Their conceptualisation arguably influences the associated constructs which they choose to study and the way in which their understanding subsequently develops.

Some have focused on maladaptive correlates of relational aggression for those who initiate acts of relational aggression, as well as for victims (Crick & Grotpeter, 1995; Crick, Murray-Close & Woods, 2005). Others have tended to characterise relationally aggressive children as Machiavellian (Hawley, 2003). Yet other researchers have focused less on the characteristics of individuals and more on the social context in which these behaviours are played out. Looking to the wider social context has also led these researchers to emphasise the dynamic nature of peer relations and the idea that children may move between the role of aggressor and victim (Adler & Adler, 1995).

These different foci seem to relate to varying beliefs about children and whether behaviour is best studied within individuals or within relationships. Indeed, in my reading of research in this area, I have come across descriptions of children as being vulnerable and needing protection and guidance. I have also read studies which have characterised quite young children as little adults, that is, able to make complex decisions about how much to behave in certain ways in order to achieve an optimal social outcome. The majority of accounts of relational aggression focus on the individual child and identifiable internal attributes that make sense of their behaviour. Fewer accounts take as a starting point wider social processes and

qualities and properties of friendships to provide a frame for understanding and conceptualising relational aggression.

I think that these different views have implications, not only for research design and interpretation of results, but also for the conception of interventions. Questions are raised about whether interventions would best be directed at individuals, dyads, social groups, classes or across whole schools. Different perspectives also guide us towards diverse approaches. Individual based approaches might include punitive interventions focusing on how harmful and wrong relational aggression is or interventions involving skills training. Looking more broadly at peer context might suggest interventions such as peer mentoring and mediation.

I believe that the potential clinical implications of the research in this field make it important to reflect on the beliefs and values shaping research questions. I found that I was uncomfortable with research which characterised relational aggression as particularly pathological; an example of this was a study looking at associations between relational aggression and features of borderline personality disorder in children (Crick et al., 2005). I also found the term Machiavellian, as applied to a particular group of relationally aggressive children, to be incongruent with my clinical and personal experience. I feel that it is quite a narrow description and one which does not encourage curiosity about the broader adjustment and social context of these children. Indeed my personal bias is that a fuller understanding of social context, in terms of parenting, peers, school atmosphere and culture, will provide a richer understanding of relational aggression.

Conclusion

In conclusion, this review has covered issues both pertaining to the current research and to the wider field in general. I have discussed the difficulties with recruitment which I encountered and the impact of this on the generalisability of the results. I have also outlined measures which were included in the original research design but which were not reported upon in the empirical paper. The reasons for and significance of their omission were discussed. Choices around peer report measures were explained and my apprehensions around using these measures explored. The importance of understanding the limitations of information obtained from different sources was emphasised. Finally, consideration was given to the impact of beliefs and values on the way in which relational aggression is characterised and understood in the literature.

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Appendices

Appendices

Appendix 1 Ethical Approval

Appendix 2 School Recruitment Information

Appendix 2.1 Initial Letter to Schools

Appendix 2.2 Detailed Information Sheet for Schools

Appendix 3 Information Sheets and Consent Form

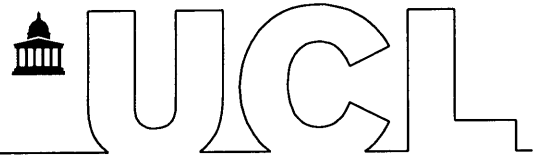
Appendix 3.1 Information Sheet for Participants

Appendix 3.2 Information Sheet for Parents of Participants

Appendix 3.3 Consent Form

Appendix 1

Ethical Approval



Dr Stephen Butler
Sub-Department of Clinical
Health Psychology
UCL
Gower Street

24th May 2007

Dear Dr Butler

Notification of Ethical Approval

Project ID/Title: 1096/001: Predictors of relational aggression in a school transition

I am pleased to confirm that the UCL Research Ethics Committee has approved your research proposal for the duration of the project. However, the Committee requested and recommended the following:

- (a) That the title of the information sheet should be adapted as follows as it was felt that the existing title might pre-determine the outcome - 'Predictors of Behaviour in the Transition from Primary to Secondary School.'
- (b) Confirmation of the schools approval for you to conduct the research.
- (c) In the letter to parents it was recommended that the following text should be inserted at the end of the 1st para: 'I am writing to let you know about some research that I am carrying out in your child's school and to ask permission for your child to take part.'

Approval is subject to the following conditions:

1. You must seek Chair's approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the 'Amendment Approval Request Form'.

The forms identified above can be accessed by logging on to the ethics website homepage: <http://www.grad.ucl.ac.uk/ethics/> and clicking on the button marked 'Responsibilities Following Approval'.

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

Reporting Non-Serious Adverse Events.

For non-serious adverse events you will need to inform Ms Helen Dougal, Ethics Committee Administrator (h.dougal@ucl.ac.uk), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-

serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Reporting Serious Adverse Events

The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

Yours sincerely

Sir John Birch
Chair of the UCL Research Ethics Committee

Cc: Bethan Ramsey, Sub-Department of Clinical Health Psychology, UCL

Appendix 2

School Recruitment Information

Appendix 2.1

Initial Letter to Schools



Dear ,

I am currently undertaking a Doctorate in Clinical Psychology at University College London. I am writing to invite your school to take part in an innovative piece of research looking at factors associated with certain types of bullying, particularly social and verbal bullying such as name calling and social exclusion.

There has been much research into physical bullying but less research into more social types of bullying. We're aware, however, that these types of bullying can have a big impact on how children get on at school. We anticipate that the results will contribute to interventions that will reduce the impact of bullying and we would anticipate that this research would fit well with the school's anti-bullying policies.

The research would involve collecting data from the incoming Year 7 pupils at two time points. In September, when they first start the school and again at the end of the Easter term. It is hoped that data could be collected from classes at a time in a single lesson, possibly tutor time. Where possible, data would also be collected from class teachers (who would be reimbursed for their involvement) and from parents.

As we are very aware of the many demands placed on teachers, this research has been designed to require as little input from school staff as possible. Indeed, it is not anticipated that this research would take up staff time outside of the lessons used to collect data. This piece of research has received ethical approval from the UCL Research Ethics Committee.

I would be very happy to feedback the overall findings of the research to the school in whatever forums and formats would be most helpful, including inputting into anti-bullying policies where appropriate. I would also be keen to repay the school for their involvement in some way such as giving a careers talk or inputting into a PSHE or citizenship lesson.

Thank you for taking the time to read this letter, if you have any questions or think you would like to take part in the research please contact me by e-mail (XXX@XXX.com) or telephone (07XXX XXX XXX).

I would be very grateful if you could pass this letter on if you feel that you are not the most appropriate member of staff to consider this research.

Yours sincerely,

Bethan Ramsey
Trainee Clinical Psychologist

Stephen Butler
Senior Lecturer

Appendix 2.2

Detailed Information Sheet for Schools



Research Information Sheet

What is the research looking at?

This research is interested in factors associated with social types of bullying including 'cyber bullying'. We are particularly interested in the relationship between variables such as self-esteem, beliefs about aggression, popularity and emotional intelligence and this type of bullying.

Why is it important to carry out this research?

It is important to carry out this research as by finding out more about how this form of aggression works, its underlying causes, how it develops and the effects, we hope to create more opportunities for prevention and intervention.

What are the benefits for the school?

The results of the research will be fed back to teachers, pupils and their parents. Bethan will be happy to repay the school for their involvement through giving a careers talk, inputting into a PSHE or citizenship lesson or contributing to anti-bullying policy. If the school wishes, it will be mentioned and thanked in any resulting publications.

What does the research involve?

The research involves year 7 pupils answering questionnaire measures at two time points during their first year at the school.

Measures will also be sent to parents to return directly to Bethan, if they choose to complete them.

Teachers will be asked to complete one short measure for each child – it is anticipated that these would be completed within the lesson time allocated to the research.

Who needs to be involved?

The year 7 tutors would be asked to collect completed consent forms when they are returned. The year 7 tutors would need to be present at the data collection points which would probably take place in PSHE or tutor time slots (as decided by the school).

When would the research take place?

The information sheets about the research and the consent forms would be handed out as early on in the Autumn term as possible.

The first set of measures would be completed once consent forms had been returned, preferably early on in the Autumn term.

The second set of measures would be completed between Christmas and Easter.

How much time will it take?

It is anticipated that each set of measures will take under 30 minutes to complete.

What do I do if I have any questions?

Bethan is very happy to answer any questions either via e-mail (XXX@XXX.com) or by phone (07XXX XXX XXX)

Appendix 3

Information Sheets and Consent Form

Appendix 3.1

Information Sheet for Participants

Information Sheet for Participants

This information sheet is for you to keep.

Title of Project: **Predictors of Behaviour in the Transition from Primary to Secondary School**

This study has been approved by the UCL Research Ethics Committee: 1096/001

Name, Address and Contact Details of Investigators: Bethan Ramsey, Sub-Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT.
XXX@XXX.com

We would like to invite you to take part in this research project. You should only take part if you want to and you will not lose out if you choose not to take part.

Before you decide whether you want to take part, it is important for you to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or you would like more information.

What are the researchers trying to find out?

Sometimes we act in ways that are unkind or cause others to get upset. We hope to find out what makes people more likely to act in these ways. We also hope to look at how acting like this can affect people.

Why have I been asked to take part?

We have asked you because you have just moved into Year 7 at school. Everyone else in your year group has been asked too.

What does the study involve?

You will be asked to fill in some questionnaires about a number of things. For example: how you are at school, how others are at school, how you feel about yourself and what you think about unkind behaviour.

Do I have to take part?

No, you can decide to not take part.

What will happen if I agree to take part?

If you agree to take part, you will be asked to fill out two lots of questionnaires, one now and one at the end of Spring term. You will be given time in lessons to fill out the questionnaires. Your parents and form teachers will also be given a questionnaire to fill out about you too. Even if you take part, you can decide to stop taking part at any time.

Will my answers be shared with anyone else?

No, all your answers will be kept safely and confidentially.

Are there good and bad things about taking part?

It is very unlikely but sometimes people get upset filling out questionnaires. If any of the questions make you feel upset, you can come and talk to Bethan (the researcher) or your class teacher so that they can help you.

Will I hear about what the research finds out?

Yes, you will be told about what the research finds out and you will be able to ask questions if you want to.

Who can I talk to if I have more questions?

If you have more questions, you can contact Bethan by e-mail (XXX@XXX.com) or you can ask your class teacher to pass on a question.

It is up to you to decide whether or not to take part. If you choose not to participate it will involve no penalty or loss of benefits to which you are otherwise entitled. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

All data will be collected and stored in accordance with the Data Protection Act 1998.

Appendix 3.2

Information Sheet for Parents of Participants

Information Sheet for Parents of Participants

This information sheet is for you to keep for your own reference.

Title of Project:

Predictors of Behaviour in the Transition from Primary to Secondary School

This study has been approved by the UCL Research Ethics Committee: 1096/001

Name, Address and Contact Details of
Investigators:

Bethan Ramsey, Sub-Department of Clinical Health
Psychology, University College London, Gower Street,
London, WC1E 6BT.
XXX@XXX.com

I am writing to let you know about some research that I am carrying out in your child's school and to ask permission for your child to take part. They should only participate if they want to and if you want them to. Choosing not to take part will not disadvantage them in any way.

Before deciding whether they want to take part, it is important for you to read the following information carefully and discuss it with others if you wish. Contact me (see above for contact details) if there is anything that is not clear or you would like more information.

What is the study trying to find out?

This study is interested in what makes children more likely to act in ways which upset other children e.g. spreading rumours, excluding peers. It also looks at how engaging in these behaviours can affect children and their peers.

Why has my child been asked to take part?

We have asked your child to take part because they have just moved into Year 7 at school. Everyone else in their year group has been asked too.

What does the study involve?

Your child will be asked to fill in some questionnaires about a number of things: how they are at school, how others are at school, how they feel about themselves and what they think about unkind behaviour. Yourself and the child's teacher will also be asked to fill in some questionnaires.

Does my child have to take part?

No, you and your child can decide that they will not take part.

What will happen if my child agrees to take part?

If your child agrees to take part, they will be asked to fill out two lots of questionnaires, one now and one at the end of the Spring term. They will be given time in lessons to fill out the questionnaires. If you agree, three questionnaires will be sent to you for you to fill in about your child and return. Their form teachers will also be given a questionnaire to fill out about them. Your child will be free to withdraw from the study at any time if they wish to do so.

Will information collected for the study be shared with anyone else?

No, all the information gathered for the study will be kept safely and confidentially. The data will be anonymised and no data on individual children will be shared in any way.

Are there any risks in taking part?

Although it is very unlikely, if any of the questions make the children feel upset, they will be encouraged to come and talk to Bethan (the researcher) or their class teacher so that they can provide help.

Will I be informed about the outcome of the study?

Yes, you will be informed about the overall outcomes of the study.

Who can I contact for more information?

If you have more questions, you can contact Bethan by e-mail (XXX@XXX.com) or by post (see address at head of this sheet).

It is up to you and your child to decide whether or not they take part. If they choose not to participate it will involve no penalty or loss of benefits to which they are otherwise entitled. If they decide to take part please sign and return the attached consent form. If they decide to take part they are still free to withdraw at any time and without giving a reason.

All data will be collected and stored in accordance with the Data Protection Act 1998.

Appendix 3.3

Consent Form

Title of Project: **Predictors of Behaviour in the Transition from Primary to Secondary School**

This study has been approved by the UCL Research Ethics Committee: 1096/001

Informed Consent Form for Participants

Participant's Statement

I (please write your full name)

- have read the information sheet and heard about the study
- have had a chance to ask questions about the study
- have had my questions answered
- have been told who to go to if I have more questions
- have been told about my rights when I take part in the study
- have been told who to contact if being in the study makes me upset at all

I understand that I can choose to stop being in the study at ANY time. All information I give will only be used for this study and will be stored safely so that other people can not look at it.

Signed:

Date:

Informed Consent Form for Parents of Participants

Parent's Statement

I (please write your full name)
agree that

- I have read the information sheet.
- my child has had the opportunity to ask questions of the researcher.
- I have been advised of who I should contact if I have any questions.
- I have been advised of my child's rights as a participant in this research.

I understand that my child is free to withdraw from the study without penalty if they so wish and I consent to the processing of their personal information for the purposes of this study only and I know that it will not be used for any other purpose. I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.

Signed:

Date:

Investigator's Statement

I
confirm that I have carefully explained the purpose of the study to the participant and outlined any reasonably foreseeable risks or benefits (where applicable).

Signed:

Date:
